

Internship report on:

GLAXOSMITHKLINE BANGLADESH LIMITED

Inventory Management and Financial Performance of the pharmaceutical

Segment of GlaxoSmithKline Bangladesh Limited

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Subject: Submission of Internship Report

Dear Sir,

I have much pleasure to submit this internship report on “Inventory management and Financial performance of pharmaceutical segment of GlaxoSmithKline Bangladesh Limited” which has been assigned to me as a requirement of completion of internship at GSK Bangladesh Limited as well as BBA certification from the department of BRAC Business School, BRAC University. This report presents the inventory management and Financial performance of GSK Bangladesh Limited in the Pharmaceutical industry in our country.

I sincerely hope that all efforts to comprehend and translate the internship program through presenting this study would be successful to meet your expectation level.

Yours Sincerely

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Acknowledgement

I would like to express my deepest appreciation to all those who provided me the opportunity to complete this report. A special gratitude I give to my organizational supervisor and Finance Manager of GSK, MR Anisuzzaman and my academic Supervisor Mr. Md. Jabir Al Mursalin whose contribution is stimulating suggestions and encouragement helped me to coordinate my internship program, especially in writing this report.

Furthermore, I would like to acknowledge with much appreciation the crucial role of the Human resource Department and the Finance Department of GSK Bangladesh Limited, who gave the permission and assistance to use all required information to complete the internship program and report preparation effectively.

Special thanks go to Mr. Anisuzzaman (Finance Manger), Mr. Gola Mostofa (Accounts Executive), Mr. Abdul Motin (Account Executive) and other respective employees of GSK, who assisted me to assemble the ideas and gave suggestion about this study. Many thanks to the Finance Director of GSK, Mr, Sarwar Azam Kahan , for his full effort in leading this highly organized and achiever Finance and accounting team. It was such a wonderful experience to work with and learn from this internationally reputed organization.

I appreciate the guidance given by my Academic supervisor MR Md. Jabir Al Mursalin whose suggestions and comments have added to the development of the report in many ways. This study is hugely indebted to these acknowledge persons' guidance and cooperation for the completion of this report.

Executive summary

The pharmaceutical sector is one of the thrust sectors in Bangladesh. Due to recent development of this sector, the industry is exporting medicines to global markets, including the European market. This sector is also providing 97% of the total medicine requirement of the local market. Leading companies are expanding their business with the aim to expand into the export market.

GlaxoSmithKline (GSK) is a leading multinational healthcare company operating in Bangladesh for years. GSK aims at offering high quality medicines and vaccines to enhance the quality of human life around the world. This study on “Inventory Management and the Financial Performance of the Pharmaceutical Segment of GlaxoSmithKline Bangladesh Limited” was aimed to identify the impact of pharma segment’s inventory management on the financial performance of GSK.

In this report we can see the financial performance of pharmaceutical segment of GSK Bangladesh LTD and comparison among its competitors. In addition, necessary suggestions are also provided for improving its present market condition. It is found that it would be wise for GSK to concentrate on formulating and exercising competitive business strategies, such as addressing efficient inventory management procedure, to regain its market position.

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Chapter one: Background of the report

1.1 Introduction:

The Pharmaceutical industry is playing an important role in the economy of Bangladesh. It is known as the most developed hi-tech sectors within the country's economy. After the promulgation of Drug control ordinance in 1982, the local Pharmaceutical companies of country get rapid support for growth and development of this sector was accelerated. There are now about 210 companies in this sector and the total market size is about taka 76,500 million per year. This industry is now self-sufficient in meeting the local demand. In addition, it is the second highest contributor to the national economy after garments, and it is the largest white-collar intensive employment sector of the country.

GlaxoSmithKline plc (GSK) is a leading multinational; healthcare company operating in Bangladesh for years. It concentrates on the development, manufacturing and commercialization of Pharmaceutical and consumer health related products.

1.2 Purpose:

The purpose of this report is to fulfill the requirement of internship completion in order to complete BBA program from the department of BRAC Business School, BRAC University.

1.3 Objectives:

The broad objective of this report is to identify the impact of pharmaceutical segment's inventory management on the financial performance of GSK. To achieve this broad objective following specific objectives were set for conducting this study:

- A. assess effectiveness of the inventory management
- B. recognize the level of impact of the inventory management on the respective years' financial performance
- C. explore the nature of existing inventory management practice

1.4 Significance of the study:

Inventory is the key current asset with a substantial portion in the form of work in progress, spares, and consumables, which are not as liquid as cash and receivables. It has significant impact on manufacturing operations, cost of goods sold, sales, net income, return on assets, gross margin etc.

Organizations, specially manufacturing organizations, need to work on increasing its liquidity levels by streamlining its processes to ensure better and effective inventory management. Exploring the effect of inventory management practices and performance on financial and operational performance is valuable initiative for the practical understanding manufacturing and financial accounting, as well as management of manufacturing operations. GSK's pharmaceutical segment, rendering a strong and disciplined operation, provides the opportunity to explore this inventory management and financial performance relationship, which might be considered to bring insight the operations practice by the manufacturing organizations, specially the pharmaceutical products manufacturers in Bangladesh.

1.5 Limitations:

Preparing a report, a major player of which is inventory accounting, requires huge amount of information and plant based working experience. The limitations are:

- I. Lack of opportunity to visit the plant to understand the inventory accounting comprehensively
- II. Complex financial management system (almost times information is handled partially by an employee) of GSK
- III. Lack of access to comprehensive industry information (competitor scenario)
- IV. Organizational compliance regarding information confidentiality organization.

1.6 Methodology:

This chapter describes the process in which the research was conducted right from selecting research problem, planning and designing the research, preparation of data collection tools and their purpose, identification of the sample area, selecting sample respondents, details of respondents and sampling strategy to be used and finally the procedure of collecting data. In accordance with the objective of the research, both qualitative and quantitative approaches were employed.

Scope:

The pharmaceutical segment of GSK was chosen due to limit the scope of the report as feasible as possible and the organized nature of information of this production segment. Considering the availability of information and the objectives of the study, recent three years' annual report and inventory statement were chosen for the analysis, three employees of GSK, the respondents of the questionnaire, were chosen based on their experience and expertise regarding inventory, as well as financial management.

Approach of research:

In accordance with the objective of the research, both qualitative and quantitative approaches were employed. This mixed method research considered the qualitative approach to explore the situation inventory management practice, and employed quantitative approach and techniques to analyze and interpret cause –effect relationship between inventory management and financial performance, where inventory management was considered as the independent variable.

Data collection tools:

A data requirement model was formulated to collect information regarding sales, inventory supply (including inventory segments information), inventory costs, lead- time etc to conduct the EOQ analysis to find out the comparative financial performance at pharmaceutical industry financial performance of Square Pharmaceutical Limited, Beximco Pharmaceutical Limited, and Renata Pharmaceutical Limited were selected. Besides this quantitative tool, an interview schedule with close-ended items was designed to get a detail insight on this issue.

Data collection Method:

Data were collected from both primary and secondary sources; Primary data was collected by executing an inventory management schedule and Questionnaire.

Secondary data: Annual report and inventory statement of GSK and annual reports of three competing pharmaceutical organizations were reviewed as important secondary source of annual financial information. Moreover, GSK, Website remained as a useful source.

Data Analysis and Interpretation:

To explore the inventory management scenario, profitability analysis, EOQ analysis and inventory turnover ratios were found appropriate. Monetary values of quarterly operations were used as inputs for these two quantitative analysis models.

Simple mathematical tools (ex. percentage, ratio) were used to analyze and describe the individual and comparative financial performance. In order to identify the level of effect on inventory management on financial performance, where inventory management was considered as the independent variable and financial performance was considered as the dependent one.

Chapter Two: Literature Review

This chapter analyzed the relevant literature on inventory management as studied by other scholars and it has been discussed in relation to the research objectives. This chapter deals with why firms hold inventory, inventory management definition and objectives, techniques to be used in inventory management, inventory models and systems and the costs to be associated with inventory management, inventory centre methods.

2.1 Inventory

Inventory is the working asset, held for eventual sale by a firm and is the stock of the product a company is manufacturing for sale and the components that make up a product. In general, inventory exists in three forms; raw materials, work in progress and finished goods. Raw materials are the basic inputs that are converted into finished goods through the manufacturing process. Work in progress is semi-finished products. They are the products that have been partially finished. Finished goods inventory refers to those units that are complete and ready for sale. It provides a link between production and consumption of goods.

(KILAMA, ACAYE PHILIP, 2011)

2.2 Inventory Management:

Inventory management refers to the process of managing the stocks of finished products, semi-finished products, and raw materials by a firm. Inventory management, if done properly, can bring down costs and increase the revenue of a firm.

Ideal level of investment in inventory management depends on the volume and value of inventory as a percentage of the total assets of a firm. The importance of inventory management varies according to industries. For example, an automobile dealer has very high inventories, sometimes as high as 50 per cent of the total assets, whereas in the hotel industry it may be as low as 2 to 5 per cent. (KILAMA, ACAYE PHILIP, 2011) Inventory management process is a continuous and complex one. 'Specialized staffs are required to employ for efficient inventory management. For manufacturing organizations, this management process begins as soon as the production is started and raw materials are ordered. Inventory management systems are used to establish when to place orders and in what quantities, these management systems have an objective of minimizing investment in inventory without necessarily impairing production. The aim of inventory management is to manage and maintain uninterrupted supplies of inventories for ongoing operations at the minimum possible cost.

Inventories constitute the most significant part of current assets of large number of firms. Management of inventory requires considerable amount of planning and funds. Transactions, precautionary and speculative motives influence firms to practice a Held inventory policy Kilma (2011) explains the transaction motive is aimed at facilitating smooth sales operations, while precautionary motive involves holding inventory to guard against unforeseen or unpredictable changes in demand and supply forces in the market, and speculative motive indicating holding either excess or shortages stocks to take advantage of price fluctuation.

2.3 Economic order quantity (EOQ)

Economic order quantity (EOQ) is the order quantity of inventory that minimizes the total cost of inventory management. Two most important categories of inventory costs are ordering costs and carrying costs. Ordering costs are costs that are incurred on obtaining additional inventories; they include costs incurred on communicating the order, transportation cost, etc. Carrying costs represent the costs incurred on holding inventory in hand. They include the opportunity cost of money held up in inventories, storage costs, spoilage costs, etc. Ordering costs and carrying costs are quite opposite to each other. If we need to minimize carrying costs we have to place small order which increases the ordering costs. If we want minimize our ordering costs we have to place few orders in a year and this requires placing large orders which in turn increases the total carrying costs for the period. We need to minimize the total inventory costs and EOQ model helps us just do that. An Economic order quantity (EOQ) could assist in deciding what would be the best optimal order quantity at the company's lowest price. (Gonzalez, March 2010) Gonzalez, in this study indicated an analysis of Economic Order Quantity and Reorder Point Inventory

Control Model could resolve the forecasting issues and improve financial performance of a certain organization.

Gonzalez described the fundamental theory of the Economic Order Quantity (EOQ) through this formula:

$$Q = \sqrt{(2 * D * S) / (H * C)}$$

Here,

(EQ: 1)

Q= the EOQ order quantity

D= the annual demand of product in quantity per unit time

S= the product order cost. This is the flat fee charged for making any order

C= Unit cost

H= Holding cost per unit as a fraction of product cost.

Total inventory costs = Ordering costs + Holding costs

In summary, the EOQ as, “Determining the order quantity “Q”, that balances the order cost “C” and the holding costs “H”, to minimize total costs. The greater the Q, the order cost would decrease due to less orders placed. On the other hand, if Q increases, the holding cost would increase due to higher inventory levels.” (Gonzalez, March, 2010)

The Economic Order Quantity (EOQ) formula has been used in both engineering and business disciplines. (Roachl School of Business, 2005) Roach said, business disciplines study the EOQ in both operational and financial courses as EOQ formulas have practical and specific applications in illustrating concepts of cost tradeoffs; as well as specific application in inventory. In order to have suitable results for any inventory model, accurate product costs, activity costs, forecasts, history, and lead times need to be in place. (Beate Klingenberg, 2010).

2.4 Inventory turnover ratio:

Inventory turnover, ratio of a firm is cost of goods sold to its average inventory level, is commonly used to measure performance of inventory managers, compare inventory productivity across retailers, and assess performance improvements over time.

The following widely used financial ratios employ inventory:

2.4.1 Inventory to current asset

$$\text{Inventory to current asset} = (\text{inventory} / \text{current Assets}) * 100$$

This ratio gives the inventory as a percentage of the current assets and as such measures the percentage of current assets tied up in inventory. Since inventories are not self liquidating a high Inventory to Current Assets can indicate obsolete or defect inventory. Clearly, after introducing JIT this number should decrease significantly, theoretically to zero. Since there are costs associated with carrying inventory, this would indicate that these costs are reduced.

2.4.2 Inventory turnover ratio

$$\text{Inventory turnover ratio} = (\text{COGS} / \text{Average inventory}) * 100$$

This ratio evaluates the operating efficiency concerning the usage of inventory in the production process. Sometimes net sales are used in the numerator. Regardless, since JIT theoretically reduces the denominator to zero, this ratio is no longer measurable. Hence, this phenomenon will indicate the correct implementation of JIT. Finally, one can evaluate the difference between the Current and Quick Ratio:

2.4.3 Current ratio

$$\text{Current ratio} = (\text{Current assets} / \text{Current liabilities})$$

2.4.4 Quick ratio

$$\text{Quick ratio} = [(\text{Current assets} - \text{Inventory}) / \text{current liabilities}]$$

(Beate Klingenberg, 2010)

Inventory as an asset on the balance sheet of companies has taken on increased importance because many companies are applying the strategy of reducing their investment in fixed assets like plants, warehouses, equipment and machinery, and so on, which even highlights the significance of reducing inventory. Changes in inventory levels affect Return on Assets (ROA), which is an important financial parameter both from internal and external perspectives. Reducing inventory usually improves ROA, and vice versa if inventory goes up without offsetting increases in revenue. (KILAMA, ACAYE PHILIP, 2011)

Kilma (2011) described, the relationship between Inventory management and the financial performance of an organization mainly manifests itself through the material requirements planning which is the system of planning, and scheduling the time- phased material requirements for production operations improved customer services and other advantages come at a cost however. They also require a realistic master production schedule to specify when various end items will be completed. Finally and perhaps most important, they require a certain discipline, then a commitment by schedules and employees to make the system work. Effective inventory planning ensures inventory reduction, reduction in production and delivery lead times, realistic commitments, and increased efficiency.

Clodfelter in 2003 (KILAMA, ACAYB PHILIP, 2011) adds that a good inventory control system maintains a proper relationship between sales and inventory. Without inventory control procedures in place, the store or department can become overstocked or under stocked. Kilma (2011) established a high positive relationship between inventory management and financial performance.

Chapter Three: Pharmaceutical Industry overview in Bangladesh:

The pharmaceutical industry is worldwide reputed for its fastest growing industry. Bangladesh has sizeable Pharma industry with potential to reach the very best of the global standard. This industry is considered as the second largest contributor to the national revenue, as well as the second largest contributor to the government exchequer. In the past ten years, the Bangladesh pharmaceutical market has double in the growth, reaching a total value of US\$929 million in from the fourth quarter of 2009 to third quarter of 2010.

Currently, the Bangladesh pharmaceutical market is dominated by the ten local players. The local companies contribute 68% to the total market, while the top 20, just four of which are multinational, contribute 84%. Nearly 200 manufacturers are responsible for 8,000 branded generics now available to the local population. Competition is intense, but the branded generics nature of the market enables top companies to command premium prices and ensure a return on their investment (IMS Bangladesh, 2013)

The Bangladesh pharma market is profoundly retail oriented, with the bulk of distribution undertaken by the companies themselves, leaving wholesalers to play a limited role. Patients must advocate for themselves within the system, as health insurance is virtually non- existent and patients are expected to pay full price for medicines.

Habib and Alam(2011) through their study tried to identify the existing problems and prospects in the pharmaceutical sector in Bangladesh. They concluded, adequate infrastructure and use of trained work force were two essential requisites for implementation of national pharmaceutical policies in Bangladesh. They also put light on the fact that the country was importing significant amount of medicine and raw materials for the industry from abroad. However, they added, industry has started to export its products in foreign market, especially in Middle East and Europe with great success. (Alam, 2011)

Chapter Four: History of GSK, Products of GSK and GlaxoSmithKline (GSK) Bangladesh Limited

This report is fulfilled and supported by GlaxoSmithKline (GSK) Bangladesh Limited. It is a world's leading research-based pharmaceutical company with a powerful combination of skills and resources that provides a platform for delivering strong growth in today's rapidly changing healthcare environment. It is the only British organization in the world's top 20 pharmaceutical companies. Subsidiary companies are established over 50 countries of the world many with their own manufacturing facilities and the group have agency representation in more than 100 offices. GSK has leadership in four major therapeutic areas- anti infectives, central nervous system (CNS) and respiratory & gastro- intestinal! Metabolic. In addition it is a leader in the important areas of vaccines and has growing portfolio of oncology products. GSK supplies products to 140 global markets and has over 100,000 employees worldwide.GSK has 180 manufacturing site in 41 countries. Every second, this organization distributes more than 35 doses of vaccines. Every minute, more than 1100 prescriptions are written for GSK products.

4.1 GlaxoSmithKline- At a Glance:

- GSK's mission is to improve the quality of human life by enabling people to do more, feel better and live longer
- GSK is a research-based pharmaceutical company.
- GSK is committed to tackling the three "priority" diseases identified by the World Health Organization: HIV/AIDS, tuberculosis and malaria
- GSK's business employs around 99,000 people in over 100 countries
- GSK makes almost four billion packs of medicines and healthcare products every year
- In November 2009, GSK launched ViiV Healthcare, a global specialist HIV company established by GlaxoSmithKline and Pfizer to deliver advances in treatment and care for people living with HIV.
- Many of their consumer brands are household names: Ribena, Horlicks, Lucozade, Aquafresh, Sensodyne, Panadol, Tums, and Zovirax

4.2 GlaxoSmithKline in time

- - Every second, more than 30 doses of vaccines are distributed by GSK.
- - Every minute, more than 1,100 prescriptions are written for GSK and every hour, GSK spends more than US \$ 450,000 to find new products.
- Every hour, GSK donates more than US \$ 148 million in cash and products to communities around the world.

4.3 History of GlaxoSmithKline

Year	History
1873	The company was oriented as Joseph Nathan & Company in New Zealand with the founding of a small import export company. It started its operation as a processing unit of abundant fresh milk of New Zealand. The only product it was producing was Glaxo Baby Food.
1875	It started to export baby food to UK Alec Nathan, son of Joseph Nathan, coined the name Glaxo from Glactose.
1924	Joseph Nathan & Company entered the pharmaceutical industry with the manufacture of Ostelin, the first Vitamin D preparation. The importance of the pharmaceutical market was soon realized
1935	Glaxo Laboratories Limited was founded with its headquarters at Greenford, Middlesex and London for the production and marketing of foods and pharmaceuticals.
1947	After the 2nd world war, Glaxo developed rapidly. Glaxo Laboratories Limited absorbed its parent Joseph Nathan & Company, and became a public company.
1963	Edinburgh Pharmaceutical Industries Limited, which owned Duncan, Flock hart and Company Limited and MAC Far lane Smith Limited, joined Glaxo.
1995	Glaxo acquired 100% share, of Wellcome PLC on may 01, 1995 and formed Glaxo Welcome PLC.

1998	Glaxo Wellcome achieved a number of regulatory milestones for several of its key projects, such as ZEFFIX for the treatment of influenza.
2000	Glaxo Wellcome and SmithKline Beecham merged to form GlaxoSmithKline; a worldwide research based pharmaceutical company.

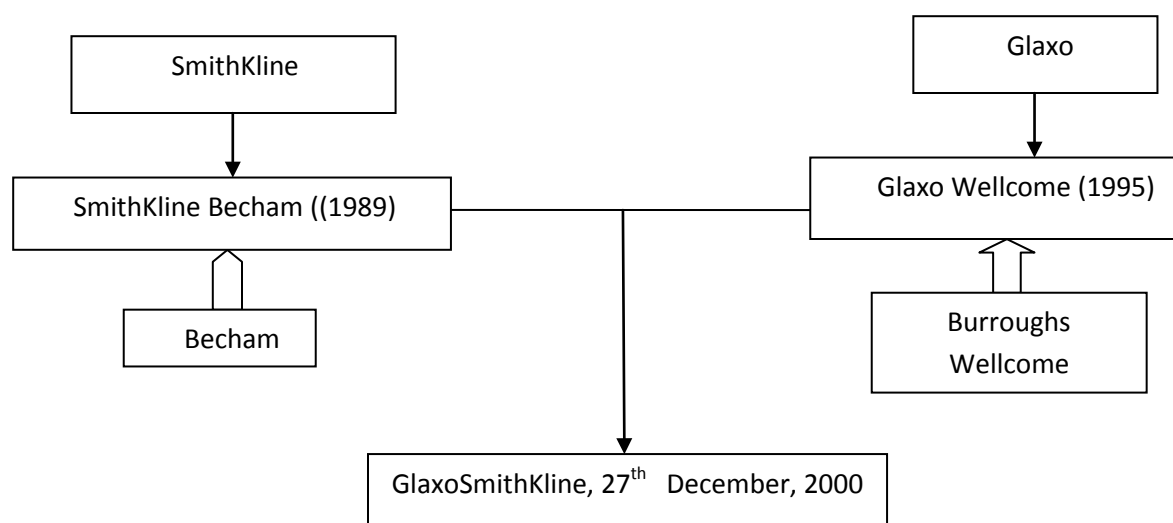


Figure -1: Merging History of GSK

4.4 GlaxoSmithKline- Mission, Strategic Intent & Spirit

4.4.1 Mission

The mission statement of the business-“**Our global quest is to improve the quality of human life by enabling people to do more, feel better and live longer**”

4.4.2 Strategic Intent

Our strategic intent states of business goal — “We want to become the indisputable leader in our industry.”

4.4.3 Spirit: “Our company spirit describes how we need to behave if we are to achieve our goal” —We undertake our quest with the enthusiasm of entrepreneurs, excited by the constant search for.

4.4.4 Vision

Becoming the undisputed leader in the industry means conquering the challenges that will be face as an industry and as a global society.

4.4.5 Quality Statement: Quality is at the heart of everything we do- from the discovery of the molecule through product development, manufacture, supply and sale- and vital to all the services that support our business performance.

4.5 Global Operation

The operation of the company splits into three geographical region- Europe, the USA and International and each of which has separate pharmaceutical and healthcare organizations. GSK pharmaceutical’s International regions divided into seven geographical areas. The complete division is shown below-

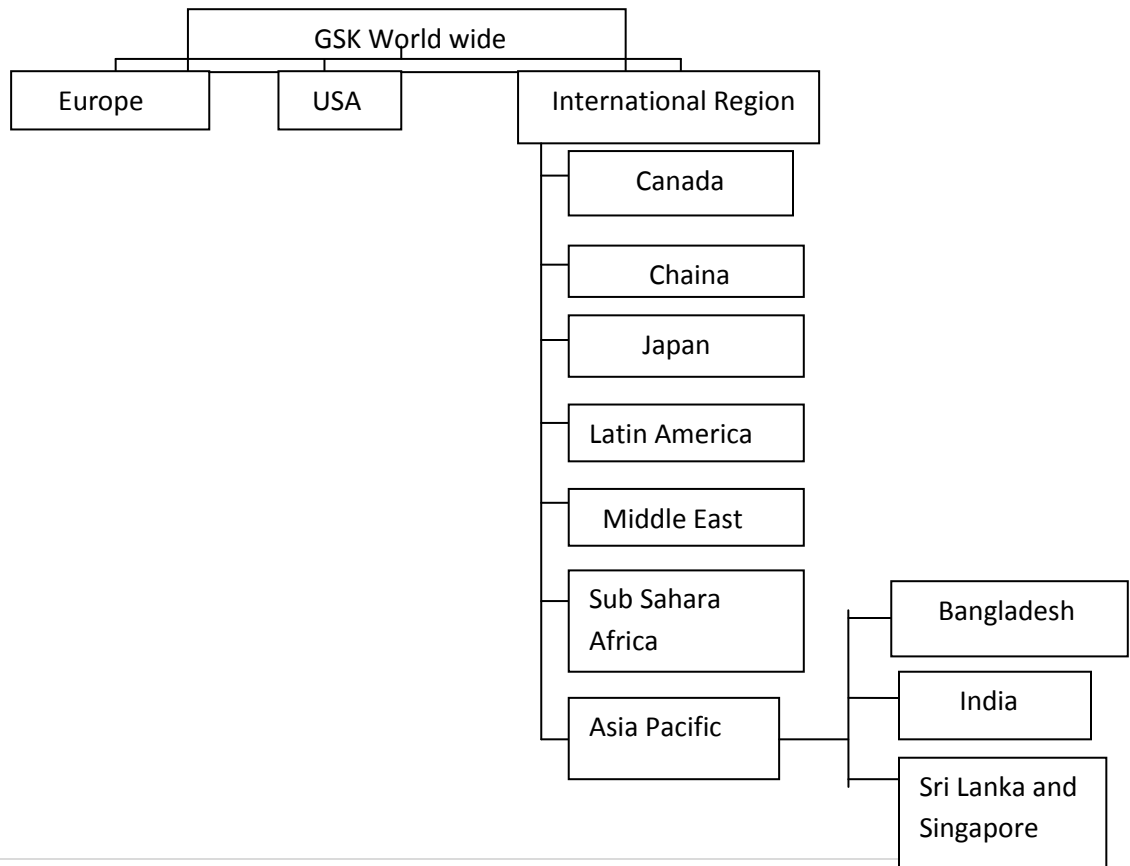


Figure 2: Workstation of GSK

4.6 GlaxoSmithKline Bangladesh Limited

With an enviable image and reputation for the past 6 decades GlaxoSmithKline (GSK) Bangladesh Limited running its operation as a subsidiary of GlaxoSmithKline plc- one of the worlds’s leading research-based pharmaceutical and healthcare companies. In 1949 the Company commenced its journey in Bangladesh with its’ corporate identity as Glaxo in Chittagong as an importer. In 1967, the company established its own manufacturing unit at Chittagong. The facility till date is considered as one of the Centre of Excellence in Global Manufacturing & Supply Network of the Group. The global corporate mergers and acquisitions have seen the evolution of the Company’s identity in the past 6 decades. In line with mergers and acquisitions the identity changed from Glaxo to Glaxo Wellcome Bangladesh Limited following the Burroughs Wellcome acquisition in 1995 and finally to GlaxoSmithKline Bangladesh Limited during 2002 after merger with SmithKline Beecham in December 2000. The mega merger of the Company enables it to deliver cuffing edge advancements in health care solutions. The relentless commitment, setting of standards of ethical standards and quality backed leading edge technology of the Company has built a strong relationship between the stakeholders and GSK Bangladesh. With the ever committed 701 numbers of personnel all over the country GSK Bangladesh, which now comprises of both Pharma and Consumer, continually strive to meet the GlaxoSmithKline mission.

4.6.1 Operations in Bangladesh Headquarter

GlaxoSmithKline Bangladesh Limited	Registered Office & Factory
Corporate Office	Fouzderhat Industrial Area
House # 2A, Road # 138.	North Kattali, Chittagong.

Gulshan-1.	District Marketing Office
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GlaxoSmithKline Bangladesh Limited has twelve districts Marketing Offices (DMO) throughout the country. These are divided in five zones by which GSK's products are sold.

- **District Marketing Offices:** GSK has 12 District Marketing Offices (DMO) in Bangladesh. The locations of DMOs are shown below-

Zone	DMO
Dhaka	Dhaka, Mymensing
Chittagong	Chittagong, Maijdee
Comilla	Comilla, Sylhet
Bogra	Bogra, Rajshahi, Rangpur
Khulna	Khulna, Jessore
Barisal	Barisal

Table: List of DMOs

*Source: Secondary data, provided by Marketing Department

4.6.2 GlaxoSmithKline Bangladesh Ltd. (In Market Place)

- Total Market Share: TK. 140 Corers (2012)
- Market Share: 1.95 % (2012)
- Ranking: 12 (2012)

4.6.3 Share Information GlaxoSmithKline Bangladesh Ltd.

- Share Price Tk. 10 each and total No. of Authorized Share 20,000,000
- Authorized Share Capital Tk. 20,000,000
- Market Capitalization 6920.685 (Million)

4.6.4 Distribution Channel

- Mutual Food- Distributor of consumer health care product of GSK, Bangladesh.
- Zuellig Pharma- Distributor of pharmaceuticals product of GSK, Bangladesh.

4.7 Organizational structure of Company

4.7.1 Top Management:

As per provisions of the Article of Association, Board of Directors holds periodic meetings to resolve issue of policies and strategies, recording minutes/decisions for implementation by the Executive Management.

4.7.2 Executive Management:

The Managing Director heads the Executive Management, the Chief Executive Officer (CEO) who has been delegated necessary and adequate authority by the Board of Directors. The Executive Management operates through further delegations of authority at every echelon of the line management.

4.7.3 Corporate Governance Structure:

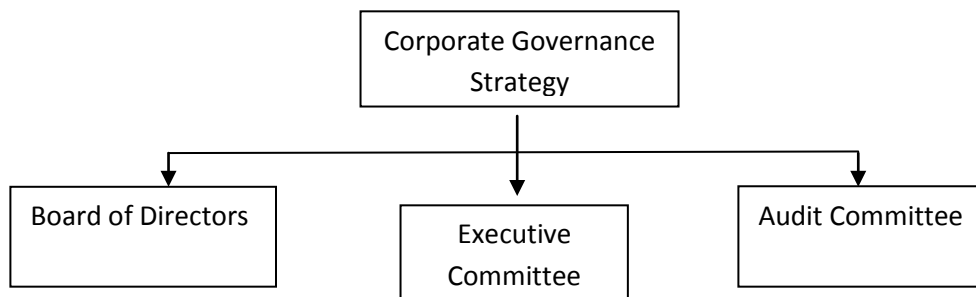


Figure 3: GSK corporate governance Structure

4.8 Functional department of GlaxoSmithKline Bangladesh Ltd.

GlaxoSmithKline, Bangladesh, Limited comprises of five major departments. They are given below-

- Human Resources
- Marketing
- Finance
- Medical and regulatory affairs
- Information Technology

4.9 Products of GSK Bangladesh LTD:

GSK is committed to develop new and effective health care solutions. The values on which the group was founded have always inspired growth and will continue to do in times to come. In Bangladesh GSK is providing both Pharmaceutical and consumer Health care products for its consumers.

GSK works in the two broad areas of products markets:

1. Pharmaceutical : prescriptions, medicine and vaccines
2. Consumer Healthcare: Over the counter medicines, Oral care and nutritional healthcare products.

Product overview:

1. Pharmaceuticals:

GSK's board pharmaceuticals product line includes antibiotic, antidepressant, gastrointestinal, dermatological, respiration, cancer and cardiovascular medications. GSK has a variety of vaccine products, including hepatitis A and B, diphtheria, tetanus, whooping cough and influenza.

2. Consumer Healthcare:

GSK Consumer Health brings oral health care, over the counter medicines and nutritional health care products to millions of people.

GlaxoSmithKline Products Glossary	
Local production	60 products including Berm Cytamen Kefdrin Pentamox
Imported product	17 products including Alkeran Seretide Zinnat
Vaccines	17 products including Engerix-B Fluarix Synflorix
Consumer Healthcare	9 products including Horlicks Chocolate Horlicks Junior horlicks Mother Horlicks Horlicks Lite Boost

	Maltova Glaxose
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GSK’S Market Share & Position

Year	Market Share	Position
2007	2.90%	12
2008	2.91%	12
2009	2.24%	12
2010	1.95%	12
2011	1.95%	12
2012	1.95%	12

GSK’s Market Share & Position (2007-2012)

4.10 GSK’S Market Share & Position Comparison

4.10 GSK’S Market Share & Position Comparison		
SQUARE	19.18%	1

INCEPTA PHARMA	9.05%	2
BEXIMCO	8.62%	3
OPSONIN PHARMA	4.94%	4
ESKAYEF	4.84%	5
RENATA	4.73%	6
ACME	4.44%	7
A.C.I.	4.08%	8
ARISTOPHARMA	3.99%	9
DRUG INTERNATIONAL	3.75%	10
SANOFI AVENTIS	2.57%	11
GLAXOSMITHKLINE	1.95%	12

4.11 SWOT Analysis

SWOT is the acronym for Strengths, Weaknesses, Opportunities and Threats. It is an analytical framework to help summarize in a quick and concise way the risk and opportunities for any company across the value chain. A good SWOT should look into internal and external factors affecting the issue at hand.

- Factors pertaining to the **internal environment** of the company. These are usually classified as Strengths (S) or Weaknesses (W)
- Factors that pertaining to the **external** environment of the company. These are classified as Opportunities (O) or Threats (T).

Strength	Weakness
-----------------	-----------------

<ul style="list-style-type: none"> • GSK is considered as world's one of the leading pharmaceutical companies because of its performance. • Efficient, capable and honest workforce • GSK has intense demand of their product nationally and internationally which helps them to inflate their business • Considerable financial resources to grow the business • Proprietary technology and importance patents • Ability to take advantage of economies of scale • Better product quality relative to rivals • Goodwill of the company • Follows GMR-Good Manufacturing Practice 	<ul style="list-style-type: none"> • Underutilized plant capacity • Higher unit cost relative to competitors • Group compliance due to group policy the company has to import raw materials from UK rather from neighbor countries (other than those which are produces locally) resulting in higher cost of production. • Lack of variety in products • Low pack size • Lack of sufficient promotional effort. • GSK has weaker distribution network and sales force are relatively low compare to competitors.
<p>Opportunities</p>	<p>Threats</p>
<ul style="list-style-type: none"> • GSK as a multinational company as Opportunity for expands its investment and has potential growth in Bangladeshi market. • Expanding the company's product line to meet a broader range of customer needs. • Target and acquire an untapped marketing for 	<ul style="list-style-type: none"> • Adverse shifts in foreign exchange rates and trade policies of government Aggressive movement of rivals Slow down in market growth Growing bargaining power of the end consumers, thus high priced medicine are inconvenient for them

<p>vaccines</p> <ul style="list-style-type: none"> • Market is significantly large and growing • Proper utilization of vaccines may result in higher profit. • Availability of natural resources is the most lucrative opportunity for GSK to work with Bangladesh. • In Bangladesh, GSK can get labors at a very cheap cost. • High confidence brand name and quality 	<ul style="list-style-type: none"> • Costly new regulatory requirements • Competitors lower prices • Increasing threats from local competitors.
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Chapter 5: GSK Bangladesh- Inventory Management Overview:

This segment of the study, exploring the inventory management practice of GSK, is formulated based on the questionnaire response or primary data source. The responses of the three interviewees were almost similar. However, the summary of the interviewees’ responses regarding the inventory management and its effect on financial performances of the pharmaceutical segment of GSK is given below:

The GSK, in spite of its tiny market share in pharmaceutical sector of Bangladesh, is determined to uphold product quality excellence and manufacturing efficiency. Manufacturing process improvement, as well as cost reduction through addressing lean technique is part of their continuous process improvement, material requirement planning is considered for managing inventory. Inventory records are maintained both manually and digitally. The company keeps records for each item. Weekly comprehensive stock counting is administered compared to the records to update the inventory situation and prevent theft and damage.

The respondents revealed that the inventory management system used by GSK pharma is not adoptive to the current market scenario. The record, forecasting and material requirement planning software is up to date with modern technology but unfortunately not enough strong and efficient in perspective of Bangladesh. In most of the cases, the operation policies of GSK are prescribed by the parent organization, instead of analyzing the current market scenario and competitors activities. These practices lead GSK to become an isolated market player with huge potential but diminishing profitability.

Due to the complex nature of the “value stream” existing in the pharmaceutical industry, the company cannot contribute value directly to its end-users. However, it attentively manages its flow of products from supplier to primary sales point Zueillig Pharma Distributions Limited (ZPL) and closely monitors the distribution and secondary sale to accumulate the demand scenario in its business development, especially in production planning decision-making readily GSK’s J.D. Edwards ERP system which is managed and monitored by a team of efficient people, ensures cost efficiency in production by warning the production control unit regarding over production, inefficient transportation, waiting time, inappropriate processing, unnecessary stock, unnecessary motion, and rejects and defects.

Inventory status report, containing current stock and requirement of raw material, packing materials, spare parts and other inventories, is regularly updated by the facility and recorded by both corporate and facility’s AIS (Accounting Information System). Based on the inventory status and production target purchase order is processed to the local, and foreign suppliers. After receiving the ordered materials, invoices and receipt notes are prepared. Accounts receivables are paid to the suppliers via checks or electronic fund transfers. Excise duties are recorded by the facility; on the other hand, VAT is deducted by the corporate Finance and Accounting Department while paying the bills by the suppliers.

5.1 Key substances of Inventory Management of GSK BD Ltd.

Like all other assets, inventory represents a costly investment to the firm. In order for this investment to be worthwhile there must be some advantage in making it. Those reasons vary with the type of inventory carried. For purpose of discussion I will use the accountant’s convention of dividing inventory into three types:

Raw Material Inventory:

- Having an available stock of raw materials inventory **make production schedule easier.**
- To keep raw materials inventory is to **avoid price changes.**
- Keep extra raw materials inventory to **hedge against supply shortages.**

Work- In- Process Inventory:

Keep work-in-process inventory beyond minimum level to **Buffer production**

Finished goods Inventory:

- Keep finished goods inventory to **provide immediate service.**
- Keep finished goods inventory to **Stabilize production.**

5.2 Purposes of Inventory management of GSK BD Ltd.

The firms keep a supply of inventory for the following reasons are:

- To maintain independence of operations.
- To meet variation in product demand.
- To allow flexibility in production scheduling.
- To provide a safeguard for variation in raw material delivery time.
- To take advantage of economic purchase-order size.

5.3 Key Functions of inventory management systems of the GlaxoSmithKline Bangladesh Limited:

The key functions of the GlaxoSmithKline Bangladesh Limited (GSK) inventory management systems are like

- To ensure material is available.
- Receipts, custody, and issue of materials.
- To recording the record of all stock movements.
- Co-ordinate with management, maintenance, production, marketing & finance departments and other departments in the company for meeting their requirements for materials and spares.
- Assist in devising management reports.

5.4 Types of Inventory of GSK BD Ltd.

There are various types of inventory. Some of them are given below, Such as:

- Work in Process.
- Packing Materials.
- Laboratory & Promotional Materials.
- Physician Sample.
- Raw & Packing Materials in Transit.
- Stock of Stationery.
- Spares & accessories and finished goods

Raw Materials: The raw-materials inventory contains items that are purchased by the firm from others and are converted into finished goods through the manufacturing (Production) process. They are important input of the final product.

Work-in-Process:

The Work-in-Process inventory consists of items currently being used in the production process. They are normally partially or semi-finished goods that are at various stages of production of multi-stage production process.

Finished Goods:

Finished goods represent final or completed products, which are available for sale. The inventory of such goods consists of items that have been produced but are yet to be sold.

Packing Materials:

The packing materials inventory contains of material packing related goods, which things are used for the purpose of packing materials. Mainly packing materials used for the purpose of cover the final products or to give it an attractive look.

Laboratory & Promotional Materials:

Laboratory and promotional material refers that which goods or materials are used for the purpose of laboratory and promotional activities. Usually this type of material used inside of the organization.

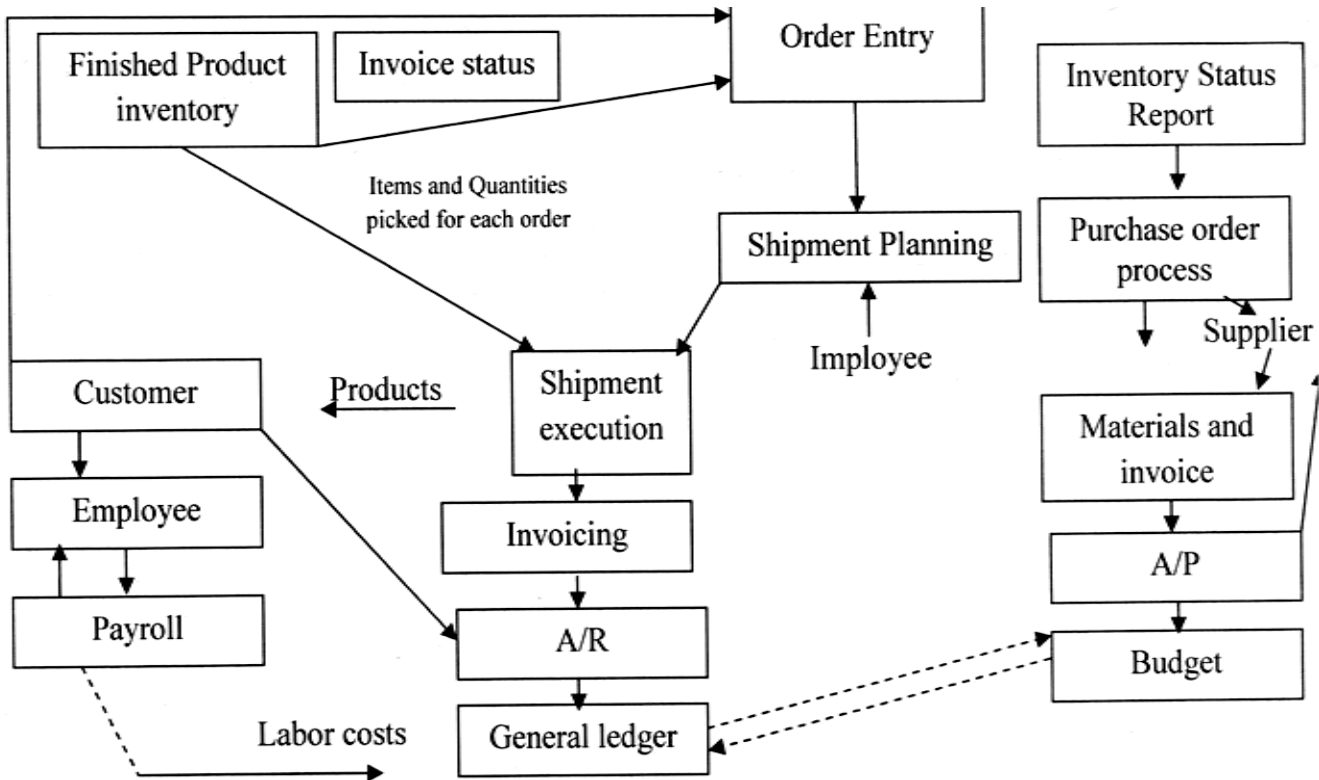


Figure 4: Flow of manufacturing and facility information

Product quantity, which is the average of latest 3 months' sale, is ordered by the primary customer ZPL. Besides, GSK processes shipment of pharmaceutical finished goods to other country organizations as per ordered by the global organization. Both accounts payables, accounts receivables and labor costs or employee payroll are recorded in the general ledger, which accordingly affects the company budget.

All of the respondents identified high COGS as reasons one of the behind the diminishing revenue and GPM. GSK focuses immensely on the quality of raw materials and machine equipment. Most of these two categories are imported, which is a major reason behind high shipping and ordering cost, as well as high inventory value.

Chapter 6: Financial Performance overview of GSK BD Ltd

(Financial Performance of the company)

6.1 Net profit Margin (NPM): It is an important measure of the profitability of a venture after accounting for all costs. In a survey of nearly 200 senior marketing managers 91% responded that they found the “Net Profit” metric very useful (Wikipedia, 2013)

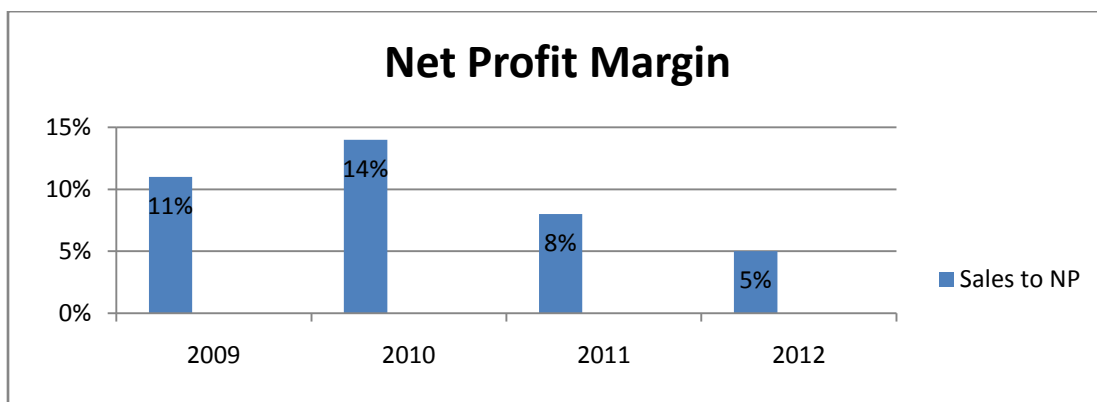


Figure 5: Net profit margin of GSK

This ratio of profitability is calculated as net profit divided by sales. It measures how much out of every BDT of sales a company actually keeps in earning. According to the graph, on the financial year 2010 the NPM was the highest, about 14%. The statistics of financial year 2011 and 2012 indicates a diminishing trend in NPM. The company had a net income of BDT 8 and 5 for each BDT 100 of sales respectively for the years 2011 and 2012.

Interpretation:

The company has costs that have increased at a greater rate than sales, which leads to a lower profit margin. This is an indication that costs need to be under better control. This low profit margin trend can also indicate that the pricing strategy and/or the impact competition are on margins.

6.2 Cost of Goods Sold (COGS) to Operating Profit (OP) Ratio

COGS refer to the inventory costs of the goods a business has sold during a particular period. It is a very important component of inventory management. COGS is consisted of material, labor, and allocated overhead costs. The following ratio expresses the percentage of GP earned against investment as COGS. This ratio was calculated dividing OP by COGS.

Operating profit (OP) or earnings before interest and tax (EBIT) is a significant financial performance indicator. It is calculated as, $OP = Revenue - COGS - Operating Expenses - Depreciation \& Amortization$.

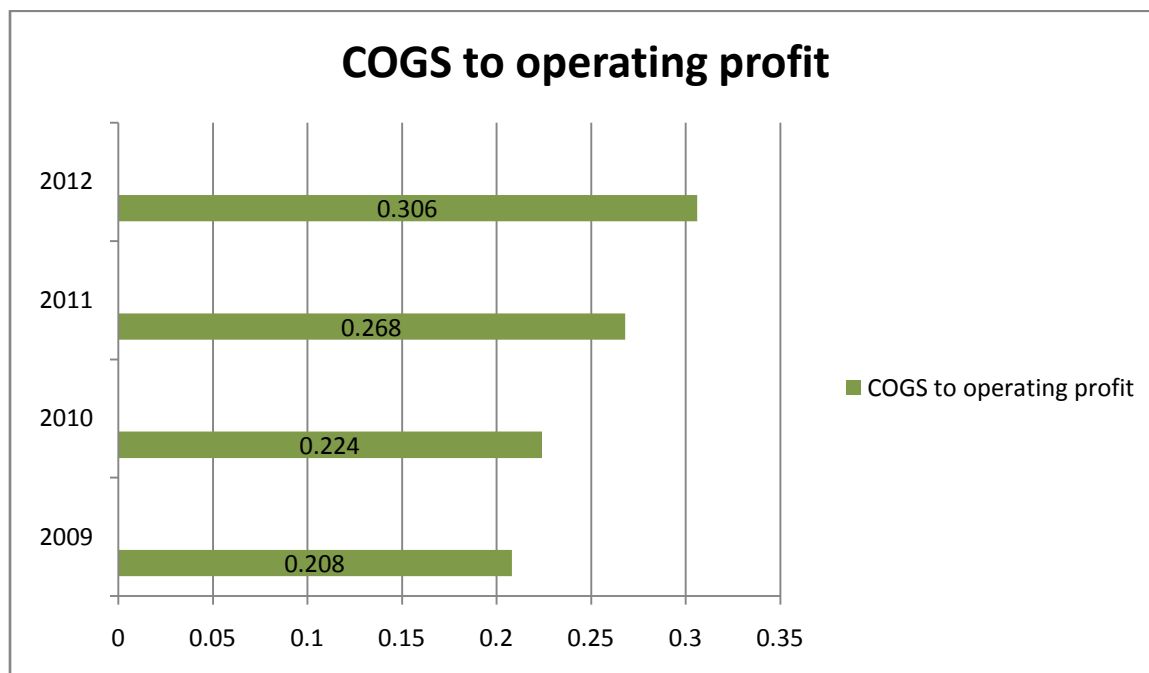


Figure- 6: COGS to operating profit Ratio of GSK

According to the analysis, the Company is experiencing an increasing trend in earning operating profit against COGS investment. For each BDT 100 investment as COGS, the company has earned BDT 21, 22, 27 and 31 respectively for the financial years 2009, 2010, 2011, and 2012.

Interpretation:

Despite of having increasing COGS the increasing trend of OP statistics and COGS to OP ratio is showing an optimistic view.

6.3 Gross Profit Margin (GPM)

GPM, expressed in percentage, is a financial metric used to assess a firm’s financial health by revealing the proportion of money left over from revenues after accounting for the cost of goods sold. Gross profit margin serves as the source for paying additional expenses and future savings. It is calculated as: $(\text{Revenue} - \text{COGS})/\text{Revenue}$. (Investopedia, 2013)

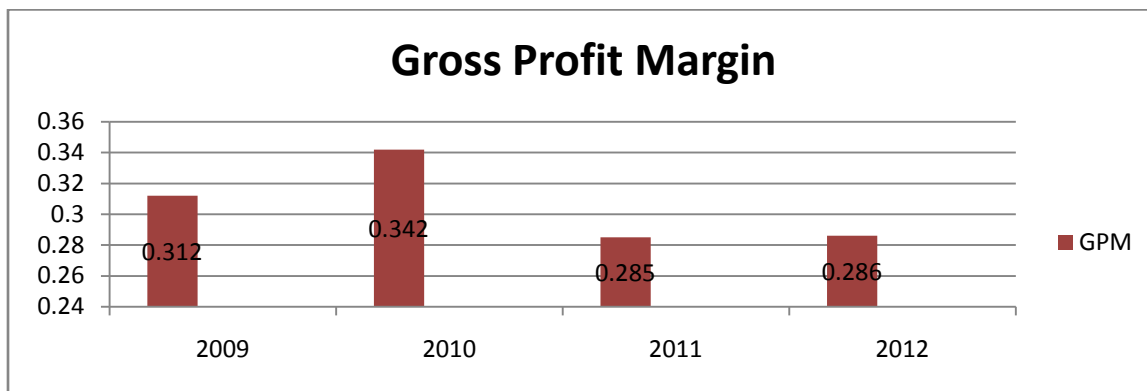


Figure 7: Gross profit Margin of GSK

As per the graph, comparing against the margins of previous years, the pharmaceutical segment of GSK is experiencing a decreasing trend in GPM in recent two years. The margin decreased from 34.2% in year 2010 to 28.5% in year 2011. After this decline, it experienced a slight increase of 0.1% in year 2012.

Interpretation

The increasing trend of GPM for the year 2010 gives a good indication of financial health of the segment. Lower profit margins do not indicate efficiency. Based on the analysis, it can be said that without an

adequate gross margin, the company will be unable to pay its operating and other expenses and improve investment capacity for the future.

6.4 Current ratio to Quick Ratio Comparison

Quick ratio and current ratio can provide the liquidity position or financial stability of an organization. While QR veers toward the more conservative side of the spectrum, CR tends to be more liberal in its conclusion of a company's hinds. The difference between these two ratios is QR discounts inventory as an asset that is not readily available, CR includes it.

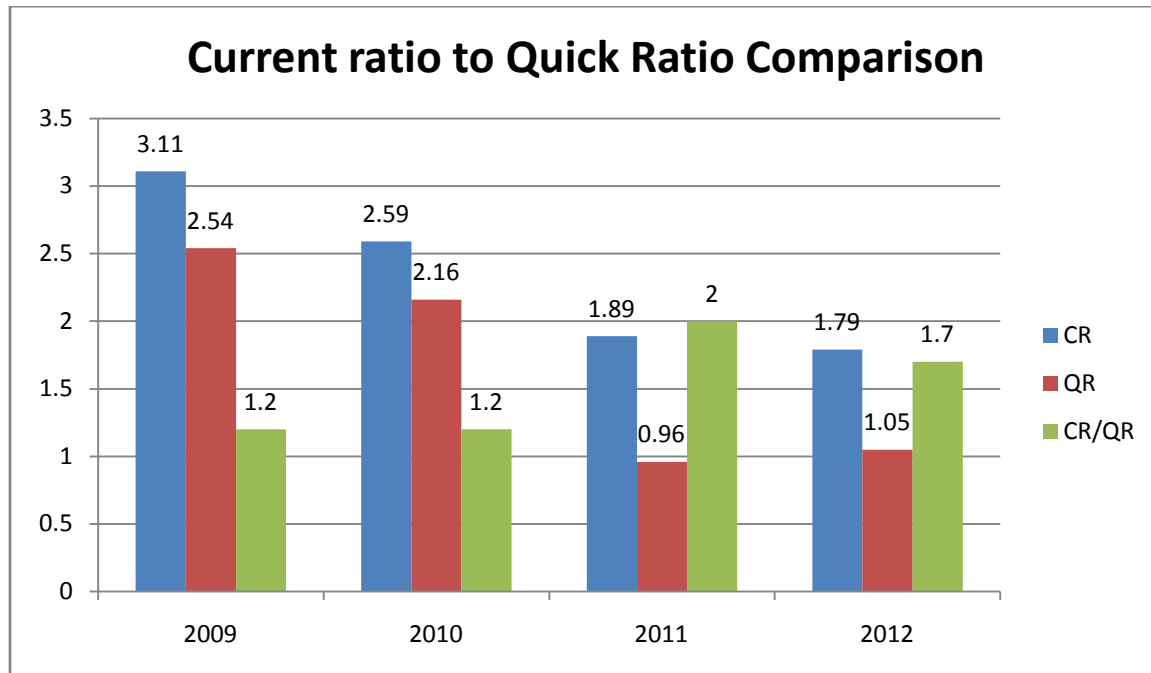


Figure 8: Current ratio to Quick Ratio comparison

According to the study, all of the QR numbers are above 1.00. CR for year 2009, 3.11, was much higher than any other years'. Besides, the QR numbers have also decreased significantly over years. The CR to QR ratio indicates that the decline in QR is sharper than CR until year 2012. CR to QR ratio of year 2012 was improved to 1.05 from 1.2 of year 2009.

Interpretation

All of the QR numbers are above 1.0, indicating the company is almost certainly financially secure. Decrease in QR indicates the decrease in cash or accounts receivable balances, without a corresponding decrease in current liabilities, or increase in a current liability without a corresponding increase in cash or

accounts receivables. CR decreases as any current asset decreases, without a corresponding decrease in a current liability, or if a current liability increases without a corresponding increase in a current asset.

6.5 ROE and ROA

Both ROE and ROA Judge a company's ability to generate earnings from its investments as well as provide a clearer representation of a company's performance. ROE shows how effectively a company's management is using investors' money and is growing the company's value at an acceptable rate. ROA reveals how much profit a company earns for every dollar of its assets. The big factor that separates ROE and ROA is financial advantage, or debt. However, if that company takes on financial advantage, ROE would rise above ROA. If ROA is sound and debt levels are reasonable, a strong ROE is a solid signal that managers are doing a good job of generating returns from shareholders' investments.

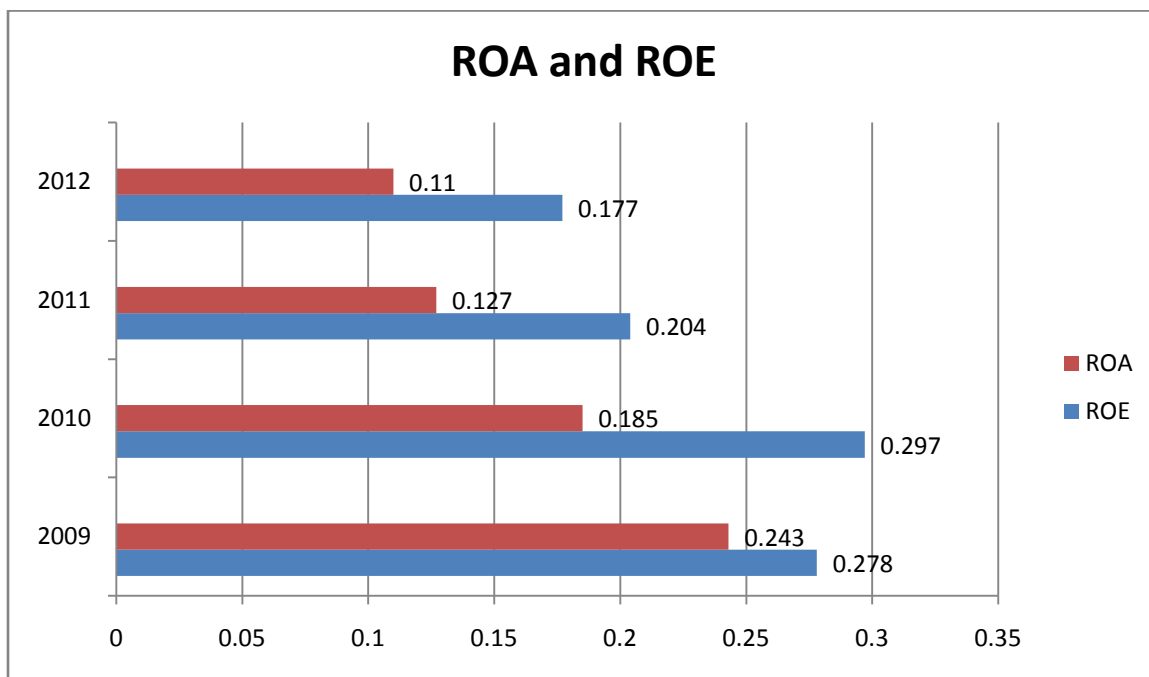


Figure 9: ROE and ROA of GSK

A decreasing trend of ROE of 29%, 20%, and 17% respectively for the years 2010, 2011, and 2012 indicates the company management is being less efficient in returning to its shareholders' investments. Additionally, the ROA is also declining, which indicates the company is performing low in making profit

against each taka of assets. 24%, 18%, 12% and 11% are the respective ROA for the years 2009, 2010, 2011, and 2012.

Interpretation

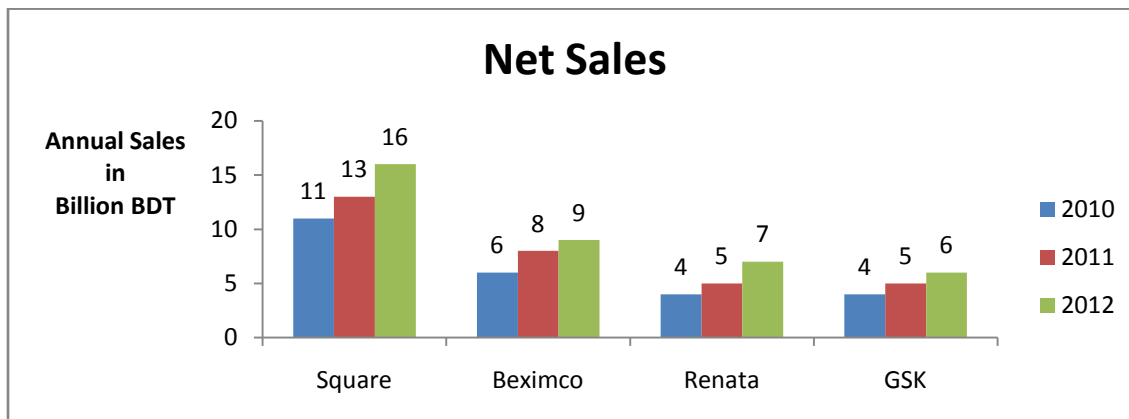
Decreasing ROE trend is certainly a “hint” that management is being less successful to provide shareholders return that is more attractive for their money. On the other hand, declining ROA indicates the company has started carrying increasing amount of debt, winning the strength of its asset base or has a waning tendency in net income.

6.6 Comparative Inventory Related Financial Performance within the Pharmaceutical Industry:

This section of the study focuses on analyzing the competitor organizations’ financial and inventory related performance. Square, Beximco and Renata Pharmaceutical’s historical financial data for the years 2010, 2011, and 2012 was analyzed.

6.6.1 Net Sales

Net sales is the amount of sales generated by a company after the deduction of returns, allowances for damaged or missing goods and any discounts allowed. The sales number reported on a company’s financial statements is a net sales number, reflecting these deductions.



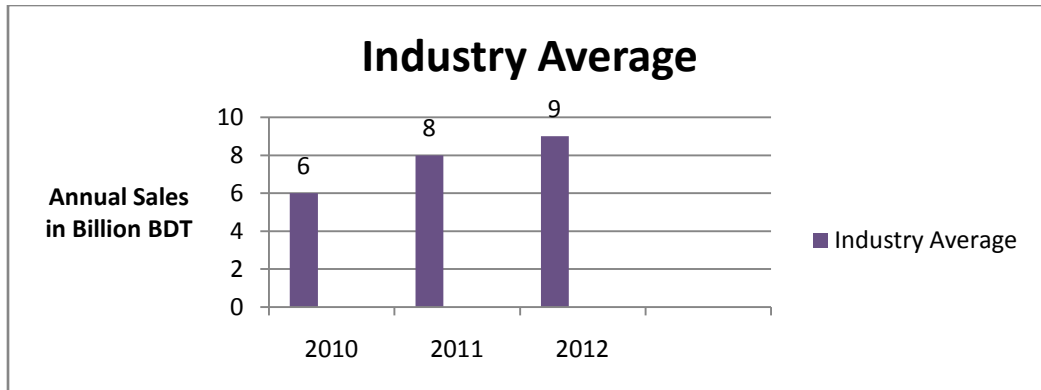
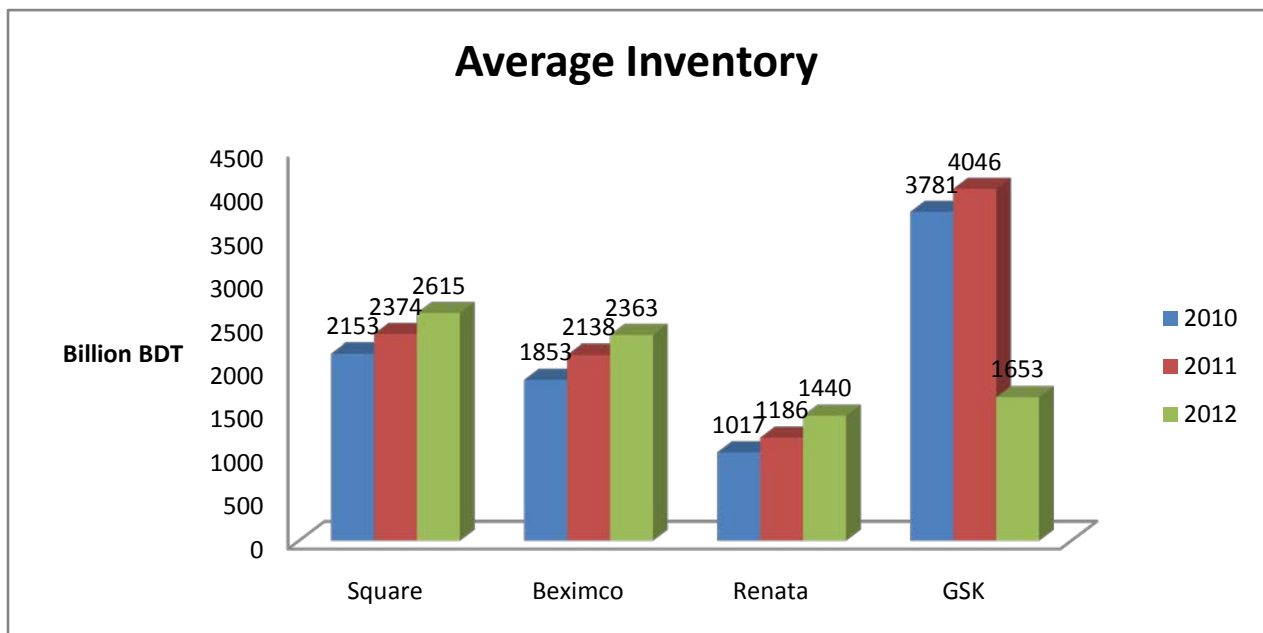


Figure-10: Comparison of Net sales with Industry Average

According to the graph, Square is clearly dominating the market in terms of net sales for years. Beximco has possessed a sound and positive growth trend in sales. Both Renata and GSK are performing significantly lower than the first two manufacturers, as well as the industry average. For year 2012, GSK could earn about 6 billion BDT as net sales, while the industry average was about 9 billion BDT and Square earned 16 billion BDT.

6.6.2 Average Inventory:

Average inventory is the median value of an inventory throughout a certain period. This study considered the average of opening and closing inventory for a year as the average annual inventory value for that year



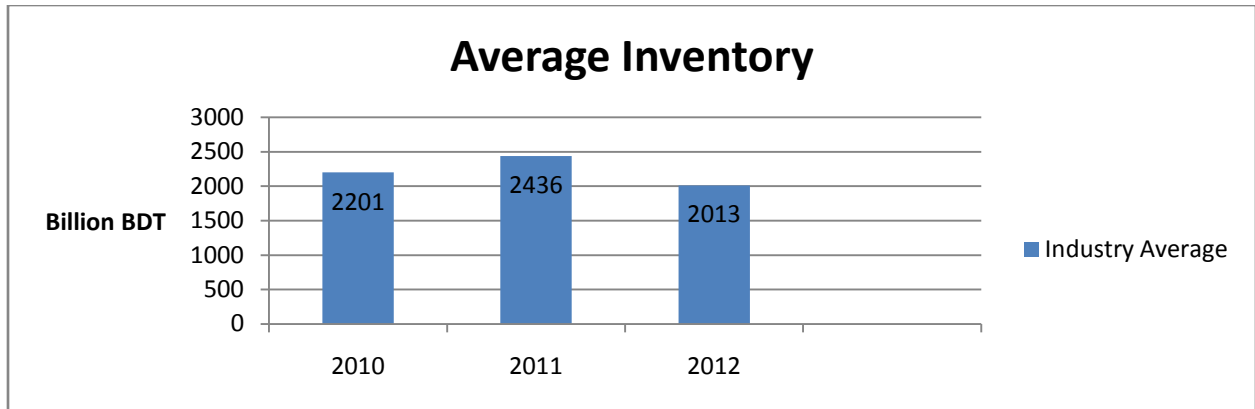
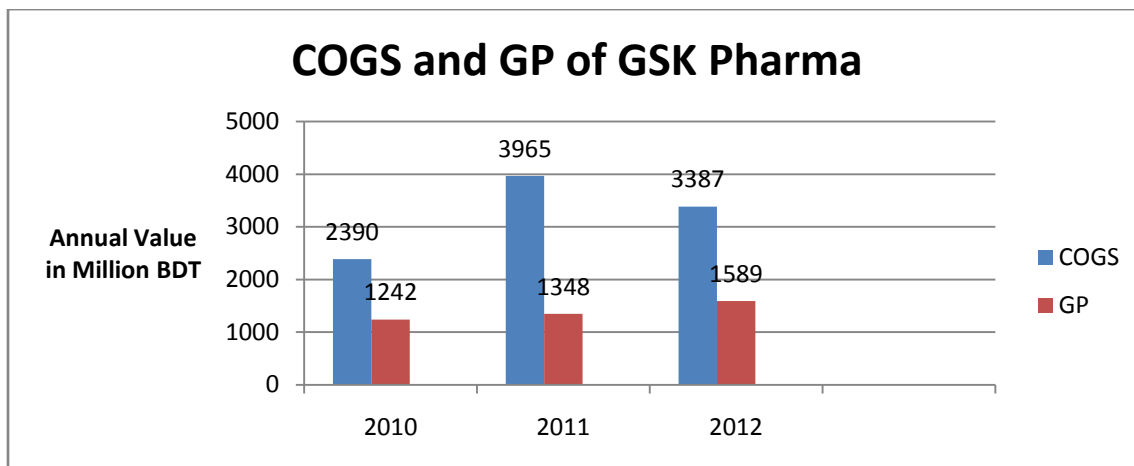


Figure 11: Comparison of Average Inventory with industry Average

As per the analysis, the average inventory of GSK for the years 2010 and 2010 were significantly higher than the industry average and any other of the three competitors, which is rather inefficient as the unsold inventory may become obsolete and results higher carrying cost. On year 2012 the average inventory of GSK decreased from 4046 million BDT to 1635 million BDT, which is below industry average of 2013 million BDT. The statistics of average inventory for the other pharma companies are relatively stable than that of GSK's.

Gross Profit Margin Analysis



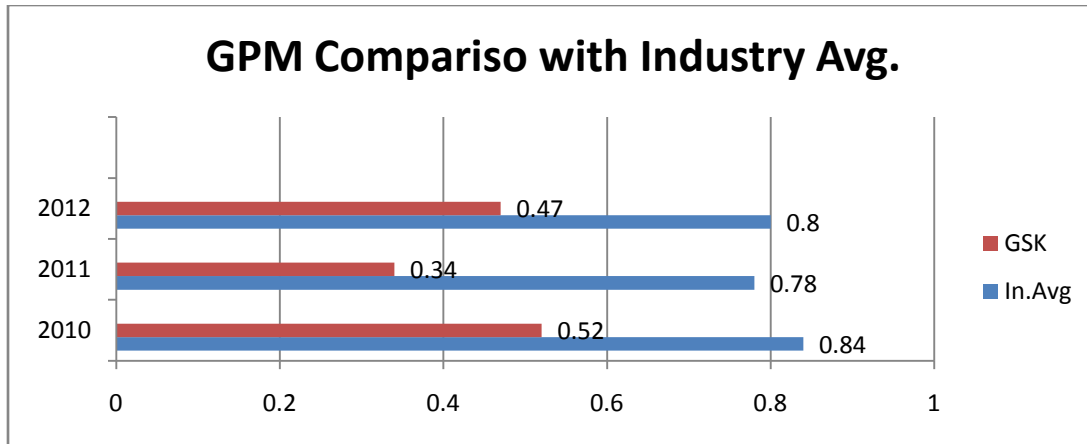
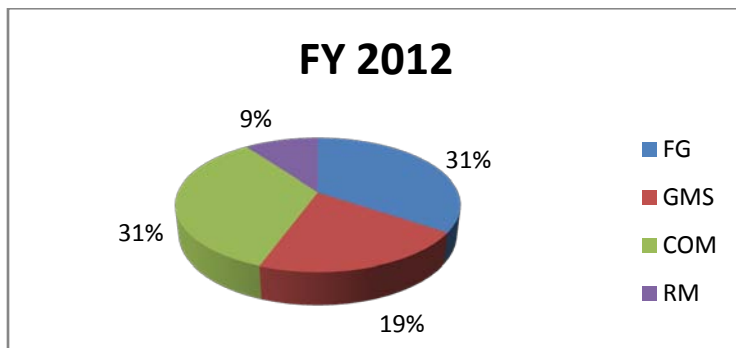


Figure- 12: Gross Profit Margin in Industry context.

The above figures state that the COGS of GSK had increased from year 2010 (2390 million BDT) to 2011(3965 million BDT) but in proportion to that, the gross profit did not increase. As a result, the GPM decreased significantly indicating that the pharma segment of the company becoming Less profitable. In contrast to that on year 2012 the GPM increased as the COGS decreased as well as the GP remained almost unchanged.

Quarterly Inventory Statement 2010- 2012 (For pharmaceutical segment)



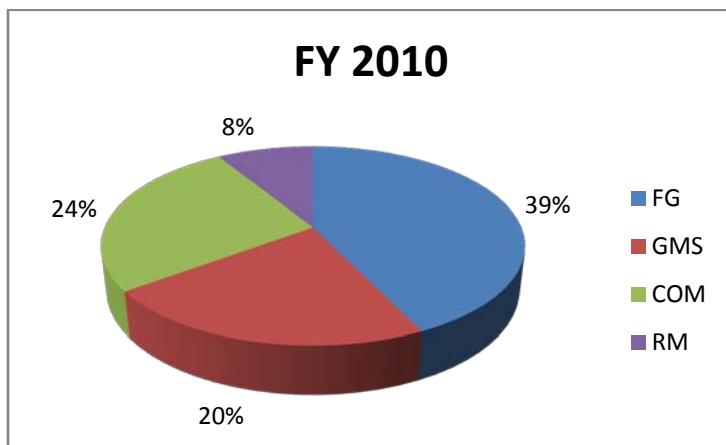
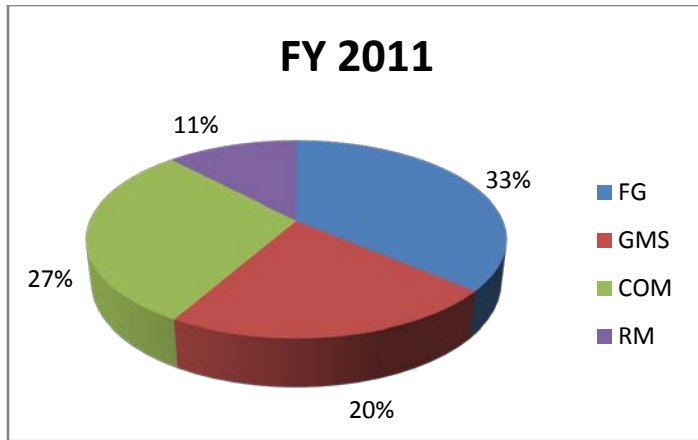


Figure 13: Inventory Summary for Year 2010, 2011, 2013

The analysis of the inventory statements for the year 2010 to 2012 reveals that finished goods occupy the major part of the inventory. FG consisted 31%, 33% and 39% of the total annual inventory for the respective years. Commercial and GMS inventory are second and third major inventory for respective years. Commercial and GMS inventory are second and third major inventory items in terms of monetary values. In contrast, raw materials, packing materials and work- in process inventory consists insignificant portion of the inventory. The chart below shows that, GSK’s total inventory value had increased over year from 2010 to 2011.

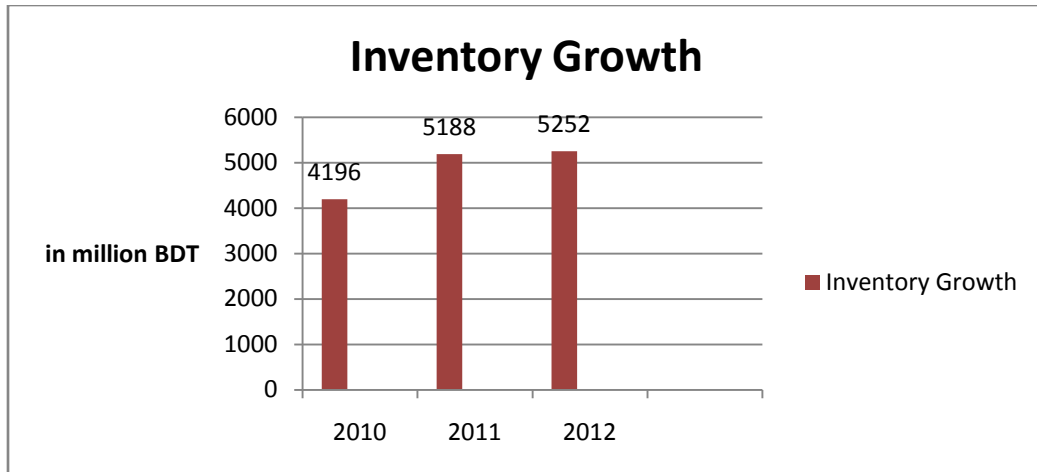


Figure 14: Inventory Growth Trend

Large amount of finished goods results into high carrying and maintaining cost, which is not an indication of inventory management efficiency. Besides, higher commercial and GMS inventory indicates the company is spending huge amount of money in importing inventory. As a result, the COGS are becoming higher.

6.7 Economic Order Quantity Analysis:

The EOQ model considers the tradeoff between ordering cost and storage cost in choosing the quantity to use in replenishing item inventories. This cost minimizing order-quantity called EOQ, is the order point at which total cost and order cost is minimum than other ordering quantity (Schwarz, 2008)

Followings are assumption for calculating EOQ:

Relatively uniform & known demand rate

Fixed item cost

Fixed ordering and holding cost

Constant lead time Annual sales unit = annual inventory units (Ferderick S Hiller, 2010)

This study calculated the annual EOQ s for years 2010, 2011 and 2013 by using this formula

$$EOQ = \sqrt{[(2 * D * K) / (H * P)]}$$

Here, K= Ordering cost per order

D= Annual demand of inventory (raw materials and packing material) in units

H= Holding carrying costs expresses as a percentage of inventory value

P= Purchase price the firm must pay per unit of inventory

Ordering period (Practicing) = 2 weeks

Assumption was made that, annual/quarterly finished goods amount is the total amount desired to be sold. As no interest rate is paid for COGS (fully equity financed),current average FDR rate practice by the commercial banks (11.395) was considered and calculated as the opportunity cost, (Bangladesh Bank, 2013) Annual carrying cost 18.39% on inventory value was calculated based on the cost information provided by GSK . Average selling price per unit for years 2010, 2011 and 2012 were respectively BDT 140,175 and 110 as par the information provided by GSK:

Description	Year 2010	Year 2011	Year 2012
Cost per order	4,856,847.15	4,250,019.54	5,463,674.75
Annual Demand	114,194	164,562	155,532
Value of inventory per unit	2,570	3,257	2,993
Inventory Carrying cost rate	.31%	.27%	.29%
Number of units produced per batch	5,000	5,000	5,000
Cost of carrying inventory	2,022,901.61	2,183,808.31	2,160,829.73
Cost of orders	110,924,560.59	139,878,343.16	169,955,252.24
Total Inventory carrying cost& Setups	112,947,462.20	142,062,151.47	172,116,081.97
EOQ	37,025	40,016	44,343

Times of orders required	3	4	4
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Annual EOQ calculation

The excel calculation of EOQ reveals , 37025, 40016 and 44343 units were respectively the cost minimizing order quantity for the years 2010,2011 and 2012. Highest cost per order, total cost of orders, total cost of inventory carrying and setups and EOQ was experienced on year 2012. In contrast to that, annual demand and per unit inventory value were seen on year 2011. Inventory carrying cost rate was highest on year 2010.

The growth in EOQ over years seems relatively stable. However, times of inventory required calculated by the study for the year 2010 (3 times) is longer which may indicate inventory damage or obsolete rate.

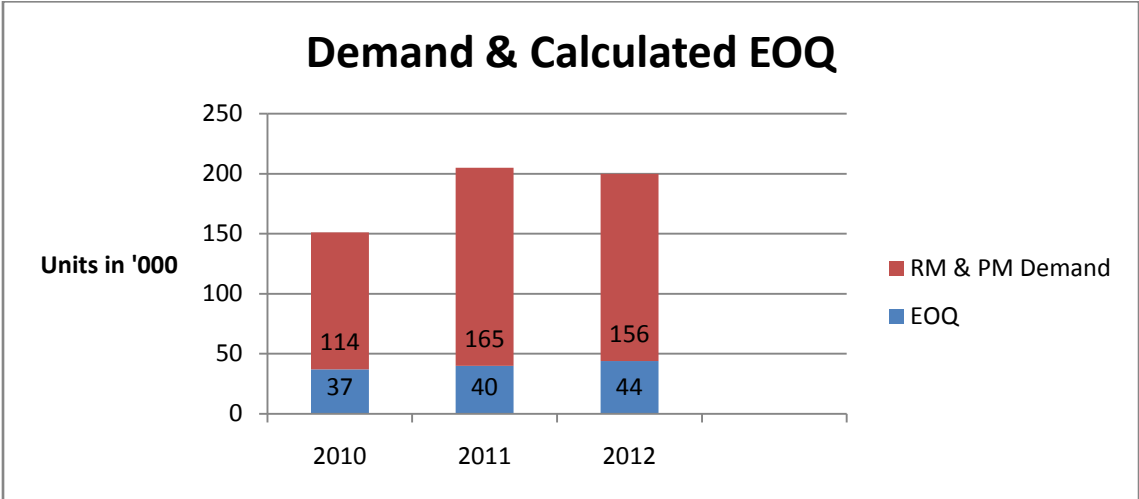


Figure 15: Sales and Calculated EOQ

Analysis revealed for year 2012 units of sales raised significantly, while EOQ declined sharply as well. On the other hand, year 2011 experienced as increased EOQ along with decreased annual net sales. This indicated no straight interrelationship between EOQ and annual net sales. Large order-quantity reduced ordering frequency, and hence ordering cost month, but requires holding a larger average inventory,

which increases storage cost month. On the other hand, a smaller order- quantity reduces average inventory but requires more frequent ordering and higher ordering cost/month.

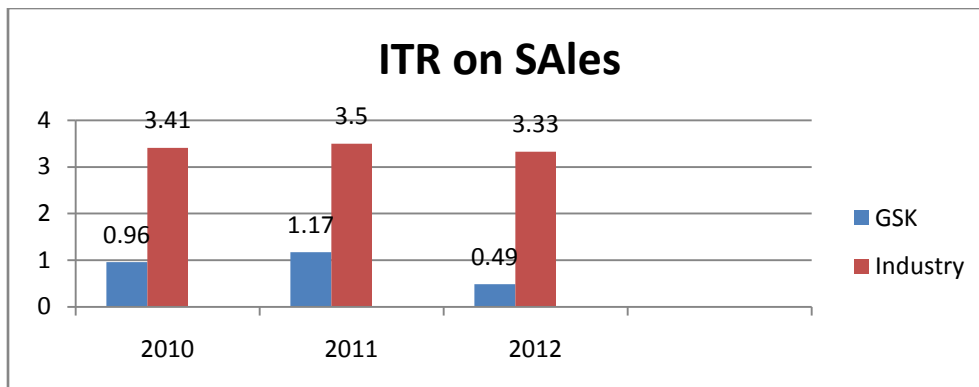
6.7.1 Inventory Turnover Rate Calculation for Pharma (Annual Average):

ITR is a ratio showing how many times a company's inventory is hold and replaced over a period. The days in the period can be divided by the inventory can then be divided by the inventory turnover formula to calculate the days it takes to sell the inventory on hand or "Inventory turnover days".

The average inventory for this study was calculated:

$$\text{Average Inventory} = \frac{(\text{Beginning inventory} + \text{Ending inventory})}{2}$$

Average inventory accounts for any seasonality effects on the ratio. A low turnover, in comparison to industry averages implies poor sales and therefore, excess inventory. A high ratio implies either strong sales or inefficient buying. High inventory levels are unhealthy because they represent an investment with a rate of return of Zero. It also opens the company up to trouble should prices begin to fall. (Investopedia, 2013).



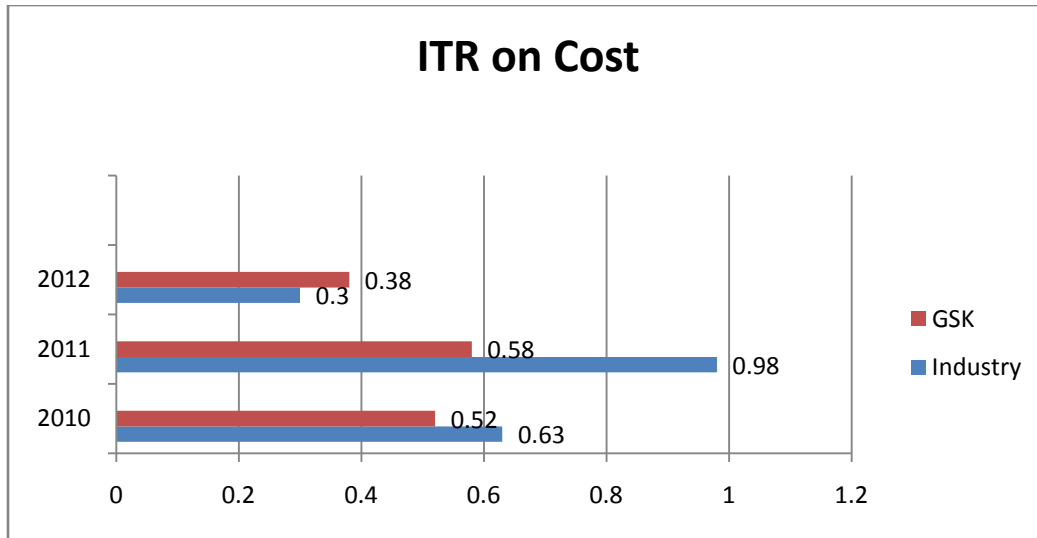


Figure 17: ITR on sales and cost

According to the analysis, GSK's ITR on sales is significantly lower than the calculated ITR. Additionally, this company's ITR on cost also lower than the industry ITR. GSK experienced 0.49 ITR on sales which is significantly lower than 2011's ITR 1.17, as well as, 2012's industry ITR 3.33.

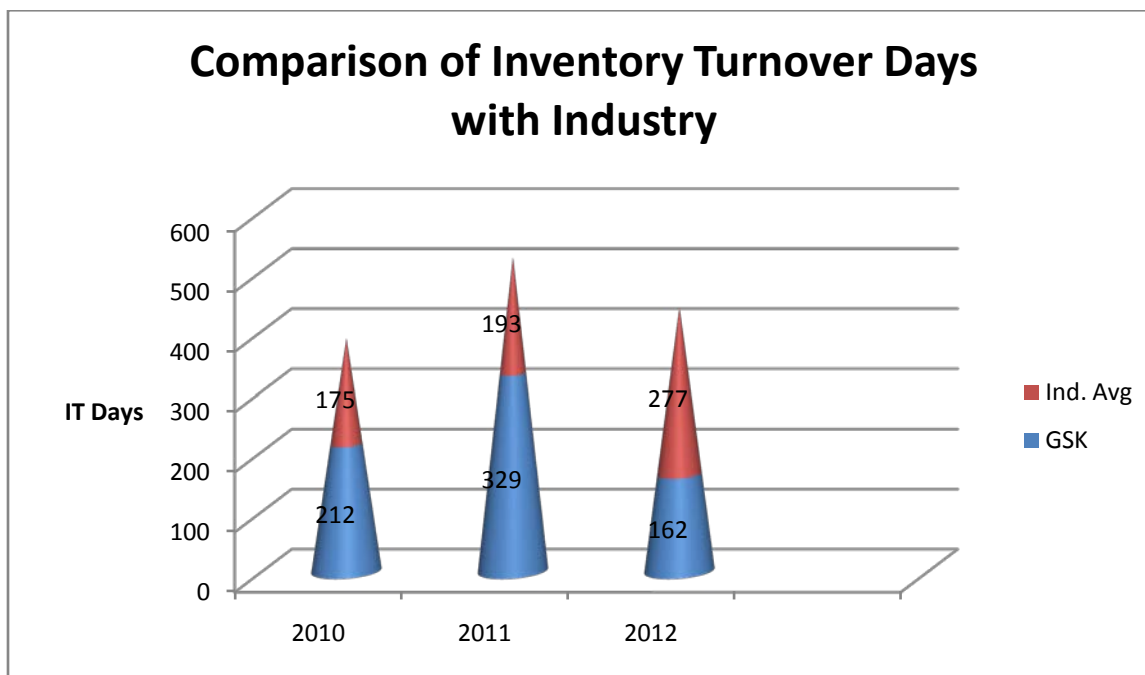


Figure 18: Comparison of IT Days with Industry

Study calculated IT days using the formula:

$$\text{ITD} = \text{Number of Days in a period} / \text{ITR}$$

According to the analysis, the IT days had been significantly lower for all the three years than the industry average IT days. 162 days, the IT s=days for sales for year 2012 was much lower than the previous year's IT days 329, as well as, year 2012's industry average 277 days.

Interpretation

Decreasing inventory turns reduces holding cost. The organization spends more money on rent, utilities, insurance, theft and other costs of maintaining a stock of good to be sold.

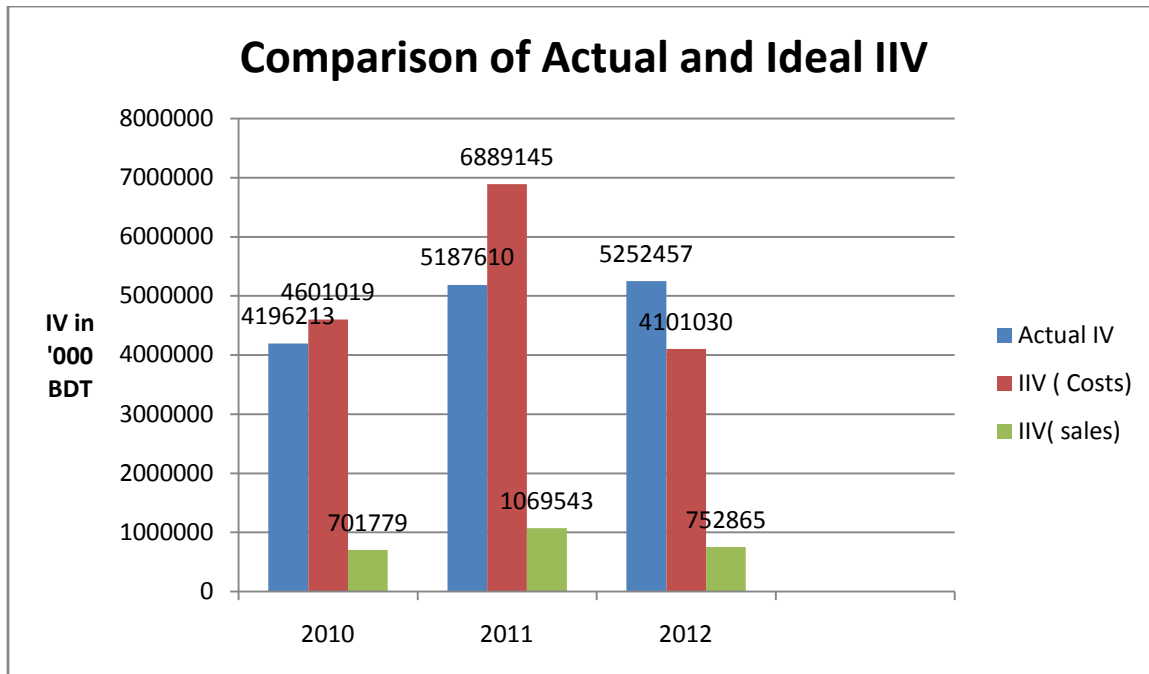


Figure – 19: Comparison of Actual and Ideal Inventory Values

Ideal inventory value (IIV) was calculated by using the formula:

$$\text{IIV} = \text{Annual COGS} / \text{Industry Average ITR}$$

Analysis indicates actual IV of GSK was relatively in more coordination with the calculated IIV on costs than the IIV on sales. The IIV on sales had been relatively constant over years and were much lower than both the actual TV and cost-based IIV. For the year 2012, the actual IV 5,252,457 BDT ('000) was higher than the IIV on both costs and sales.

Interpretation:

GSK is consistently experiencing low turnover, which is usually a bad sign because products tend to deteriorate as they sit in a warehouse.

GSK's high average days of inventory indicates that the company is not properly managing its inventory or that it has a substantial amount of goods, which are proving difficult to sell. The higher a firm's average age of inventory, the greater its exposure to obsolescence risk, the risk that the accumulated products will lose value in a soft market.

Chapter 7: Findings, Recommendation and Conclusion

Findings:

Financial performance of GSK is much lower than the other market performances'. Besides, the historical performance of the company is at wane.

1. The company's gross profit margin is not stable. Trend of decreasing sales accompanied by increasing COGS is resulting into diminishing revenue, GPM, ROA and ROE.
2. From the perspective of liquidity ratios analysis it can be stated, the company is almost certainly financially secure.
3. This study revealed that GSK is remaining at a meager position in Pharmacy manufacturing industry in terms of average inventory maintenance and GPM. Lowest average inventory value may indicate minimum total inventory costs, but the least ability of the company in meeting the market demand.
4. Quarterly Inventory statements analysis for three years revealed the majority of finished goods over the other inventory components, resulting high carrying and maintaining cost. Additionally, an increasing trend in total inventory value had been observed which indicates company's dependency on costly imported inventory.
5. GSK's ITR on both sales and cost is significantly lower than the industry average, which implies poor sales and therefore, excess inventory. However, this low ITR provides the company protection against trouble resulted from unexpected fall in price of product.
6. Currently the company is managing it a manufacturing operation based on the historical sales data. The total manufacturing cost, specially ordering and holding costs could be significantly

less if the company addressed standard operation cost minimizing integrated inventory management system, such as EOQ.

Recommendation:

The company should identify and access less costly local or foreign source of inventory for their Pharma products to reduce the COGS as well as to acquire strong profit position in the industry. The parent company should consider the pharmaceutical market of Bangladesh as a potential one. It should concentrate on formulating and exercising competitive strategies to regain its lost dominating position in the market.

Conclusion:

This study on “Inventory management and Financial Performance of the Pharmaceutical segment of GSK Bangladesh Limited” shows the overall scenario of GSK’s pharmaceutical segment performance in Bangladesh. In addition, it also describes the effect of Inventory management on the financial performance of GSK Bangladesh LTD. Moreover, this study illustrates the comparison among few competitors of GSK in perspective of financial performance. Finally, it reminds the management of GSK of the need to streamline local inventory management procedures and strategies effectively to boost the levels of financial performance.

The parent company, with its age reputation in manufacturing quality goods and operation excellence in this country should consider the pharmaceutical market of Bangladesh as a potential one. It would be wise for GSK to concentrate on formulating and exercising competitive business strategy such as addressing efficient inventory management procedure to regain its market position.

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EOQ Information Schedule

Economic Order Quantity Analysis (EOQ)						
		S	F	P	C	EOQ (cal)
Period	Quarter	Total Desired to Sell	Shipping Costs	Purchasing Costs	Interest Rates	Calculated EOQ
Year-1	1					
	2					
	3					
	4					
Annual						
Year-2	1					
	2					

	3					
	4					
Annual						
Year-3	1					
	2					
	3					
	4					
Annual						
Inventory Turnover Rata Statistics						
Period	Annual (COGS (Avg.))		Retail Sales (Avg.)		Sales in Units (Avg.)	
Year-1						
Year-2						
Year-3						
Average Inventory (AI) Statistics						
Period	AI at Cost		AI at Retail		AI in Units	
Year-1						
Year-2						
Year-3						
Inventory: Basic Statistics						
Description -> Year						
Raw Materials						

Packing Materials			
Work in Process			
Finished Goods			
Stores & Spares			
GMS			
Commercial			
Total Inventory Value (in thousands)			
Total Inventory Value (in million BDT)			

Number of Days in a Period:

Lead-time:

Inventory Turnover Rate:

Any seasonal trend: YES/NO

Industry Average Turnover Rate:

Important Excel Calculations:

GSK's Financial Performance Analysis (The Company)

Financial Performance						
Year	Sales	COGS		Operating	Net Profit	COGS to OP
2009	3023672000	2079389000	944283000	431859000	323787000	0.208
2010	3632095000	2389742000	1242353000	535597000	410177000	0.224
2011	4735121000	3386670000	1348451000	907013000	282068000	0.268
2012	5553812000	3964900000	1588912000	1213242000	243967000	0.306

Operating Performance		Profitability			EO		Liquidity		
Year	TGR	GPM	OPM	NPM	ROE	ROA	CR	QR	CR/OR
2009		0.310	2.03	0.11	0.278	0.243	3.11	2.54	1.2
2010	1.202795274	0.342	1.24	0.14	0.297	0.185	2.59	2.16	1.2
2011	1.253852928	0.285	1.69	0.08	0.204	0.127	1.89	0.96	2.0
2012	1.233554719	0.286	1.34	0.05	0.177	0.110	1.79	1.05	1.7

Notes:

Turnover growth rate= TGR Turnover (current)/Turnover (Previous)

Gross profit ratio=GPR

Operating profit margin Operating Profit (current)/Operating Profit (Previous)

Net Profit margin Net Profit/Sales

Inventory turnover COGS/Annual Inventory

Current ratio

Quick ratio Quick Ratio=(Current Asset-Inventories)/Current Liability

OE Operating Efficiency

Comparative Inventory Related Financial Performance within the Industry				
	2010			
	Square	Beximco	Renata	GSK

Net Sales	11462578410	6490847353	3900732314	3632095000
Opening Inventory	2098755231	1722953284	959414590	610525000
Closing Inventory	2207078082	1983809444	1075310581	6952310000
Average Inventory	2152916657	1853381364	1017362586	3781417500
Cost of Goods Sold	6561288485	3317640254	1820496777	2389742000
Gross Profit	4901289925	3173207099	2080235537	1242353000
ITR on Cost	0.33	0.56	0.56	0.63
ITR on Sales	5.32	3.50	3.83	0.96
Gross Profit Margin	0.75	0.96	1.14	0.52

	2011			
	Square	Beximco	Renata	GSK
Net Sales	13471424469	7890241843	5090318113	4735121000
Opening Inventory	2207078082	1983809444	1075310581	6952310000
Closing Inventory	2541688329	2291844631	1295855164	1138844000
Average Inventory	2374383206	2137827038	1185582873	4045577000
Cost of Goods Sold	7703661010	4103709021	2405361976	3964900000
Gross Profit	5767763459	3786532822	2684956137	1348451000

ITR on Cost	0.308214913	0.520949957	0.492891666	0.980057974
ITR on Sales	5.673652188	3.690776524	4.293515225	1.170443919
Gross Profit Margin	0.748704214	0.922709871	1.116237873	0.340097102

	2012			
	Square	Beximco	Renata	GSK
Net Sales	16054425243	9289115284	6519639234	5554000000
Opening Inventory	2541688329	2291844631	1295855164	1138844000
Closing Inventory	2687818472	2433987981	1585100179	2131740000
Average Inventory	2614753401	2362916306	1440477672	1635292000
Cost of Goods Sold	9167253620	4899713857	3099355955	3386670000
Gross Profit	688717623	4389401427	3420283279	1588912000
ITR on Cost	0.285227526	0.48225598	0.464766775	2.070987934
ITR on Sales	6.139938565	3.931207915	4.526025889	3.396335333
Gross Profit Margin	0.751279708	0.895848524	1.103546456	0.469166467

	Industry Average			
		2010	2011	2012
Net Sales		6,371,536,269	7,796,776,356,	9,354,294,940
Opening Inventory		1,347,912,026	3,054,627,027	1,817,058,031
Closing Inventory		3,054.627.027	1,817,058,031	2,209,661,658
Average Inventory		2,201,269,527	2,544,408,002	2,013,359,845
Cost of Goods Sold		3,522,291,879	4,544,408,002	5,138,248,358
Gross Profit		2,849,271,390	3,396,925,855	4,071,442,082
ITR on Cost		0.52	0.58	0.83
ITR on Sales		3.41	3.71	4.50
Gross Profit Margin		0.84	0.78	0.80

Notes:	
COGS	Cost of Goods Sold
ITR	Inventory Turnover Rate
ITR on Cost	Inventory/COGS
ITR on Sales	Sales/Average Inventory at Sales
Gross Profit Margin	COGS/Gross Profit

COGS (in Million BDT)	2,390	3,965	3,387
GP (in Million BDT)	1,242	1,348	1,589

Quarterly inventory statement 2010-2012

Quarterly Inventory Statement 2010-2012 (for pharma) (BDT 000)					
Description	Actual Current 2010				
	March	June	September	December	Total
Stock and Stores					
Raw Materials (RM)		89150	80616	67467	237233
Packing Materials	44340	36838	37759	39481	158418
Work-in-Process (WIP)	28286	38235	36960	35045	138526
Finished Products-Local (FPL)	181109	189300	192358	195481	758248
Finished Products-Local(FPL)	176542	198208	255982	189757	820489
Store and Spares (S&S)	20329	19324	21131	20615	81399
Total Stock and Stores	450606	571055	624806	547846	2194313
Stock-in-Transit					
Raw Materials	14079	34909	26765	24010	99763
Packing Materials	682	1265	4428	665	7040

Finished Goods (FG)	15995	13395	17130	17330	63850
Spare Parts (SP)	0	720	0	4	724
Total in Transits	30756	50289	48323	42009	171377
	481362	621344	673129	589855	2365690
Total Stock					
Actual					
GMS	225515	220441	207659	187287	840902
Commercial	213646	260637	264770	250568	989621
Total Actual	439161	481078	472429	437855	1830523
Total Inventory	920523	1102422	1145558	1027710	4196213

Description	Actual Current 2011					
	March	June	September	December	Total	%Change
Stock and Stores						
Raw Materials (RM)	128639	121012	105702	98924	454277	0.91
Packing Materials	37747	40178	49487	55404	182816	0.15
Work-in-Process (WIP)	31466	40932	39724	55913	168035	0.21
Finished Products-Local (FPL)	135550	184869	89971	95526	505916	0.33

Finished Products- Local(FPL)	115285	238862	328253	387206	106960 6	0.30
Store and Spares (S&S)	21331	21428	23101	23004	88864	0.09
Total Stock and Stores	470018	647281	636238	715977	246951 4	0.13
Stock-in-Transit						
Raw Materials	24853	47107	36224	28799	136983	0.77
Packing Materials	1553	2592	848	2599	7592	0.08
Finished Goods (FG)	4893	40201	42214	42834	130142	0.04
Spare Parts (SP)	436	0	0	0	436	0.40
Total in Transits	31735	89900	79286	74232	275153	0.61
Total Stock	501753	737181	715524	790209	274466 7	0.16
Actual						0.24
GMS	224602 5	273249	255086	264643	103900 3	0.42
Commercial	213774	384024	390484	415658	140394 0	

Total Actual	459799	657273	645570	680301	244294 3	0.33
Total Inventory	961552	139445 4	1361094	1470510	518761 0	0.4947573 6
Description	Actual Current 2012					
Stock and Stores	March	June	September	December	Total	%Change
Raw Materials (RM)	109929	127181	88337	70182	395629	0.13
Packing Materials	58356	54913	73256	57615	244140	0.34
Work-in-Process (WIP)	42674	48759	42351	47354	181138	0.08
Finished Products-Local (FPL)	78419	145356	131779	104228	459782	0.09
Finished Products-Local(FPL)	269700	266228	312695	248353	109697 6	0.03
Store and Spares (S&S)	19972	22633	19592	21038	83235	0.06
Total Stock and Stores	579050	665070	668010	548770	246090 00	0.00
Stock-in-Transit						
Raw Materials	47687	4146	21150	6673	79656	0.42
Packing Materials	4269	923	4989	1396	11577	0.52
Finished Goods (FG)	5931	33199	29756	8263	77149	0.41

Spare Parts (SP)	0	0	0	0	0	1.00
Total in Transits	57887	38268	55895	16332	168382	-0.39
Total Stock	636937	703338	723905	565102	262928 2	-0.04
Actual						
GMS	282887	258555	249675	204258	995375	-0.04
Commercial	354050	444783	474230	35737	162780 0	0.16
Total Actual	636937	703338	723905	558995	262317 5	0.07
Total Inventory	127387 4	140667 6	1447810	1124097	525245 7	0.031736 9

Note:

1. Since the inventory data for year 2009 was no available, inventory trend for year 2010 could not be compared.
2. GMS Global Manufacturing & Supply

Summary Inventory Statement

Description	2010	2011	2012
RM	336996	591260	475285
PM	165458	190408	255717
WIP	138526	168035	181138
FG	1642587	1705664	1633907
S&S	82123	89300	83235
GMS	840902	1039003	925375
COM	989621	1403940	1627800
Total Inventory Value (in thousand)	4186213	5187610	5252457
Total Inventory Value (in million BDT)	4196	5188	5252

Economic Order Quantity Analysis

			D		K		C		h	h/c	
Period	Quarters	RM+PM Demand (BDT)	Inventor Demand (units)	Shipping (Qtr, in BDT)	Per Order Cost (BDT)	Purchasing Cost (BDT)	Ver Cost (BDT)	Carrying Cost (at 18.39%)	C	C	EOG

									T)		
Year-2010	1			23,141,083	4856847	190046040					
	2			29,141,083	4856847	209293851					
	3			29,141,083	4856847	365507545					
	4			29,141,083	4856847	983414393					1370859562
Annual		502,454,000	114,194	116,564,332	4856847	1748,261,828	2,570	92,401,291	809	0.31	37025
Year-2010	1			25,500,117	4250020	260882800					
	2			25,500,117	4250020	371799112					
	3			25,500,117	4250020	415485824					
	4			25,500,117	4250020	853885480					1601312058
Annual		781,668,000	164,562	102,000,469	4250020	1,902,053,216	3,257	143,748,745	874	0.27	40016
Year-2010	1			32,782,049	5463675	219209279					

0											
	2			32,782, 049	54636 75	3467885 89					
	3			32,782, 049	54636 75	2155292 66					
	4			32,782, 049	54636 75	1812943 305					196631 19349
Ann ual		731,002 ,000	155,5 32	131,128 ,194	54636 75	2,594,47 0,439	2,9 93	134,43 1,268	86 4	0. 29	44343

	2010	2011	2012
Demand (in '000 units)	114	165	156
EOQ	37,025	40,016	44,343
EOQ value (BDT)	95,154,560	130,333,406	132,719,196
EOQ (IV=X) Annual total	2,283,709,444	3,128,001,750	3,185,260,712
Total Cost on EOQ	323,437,841	470,933,690	503,834,518

Note:

Annual/quarterly finished goods is the total desired to sale.

1. No interest rate is paid, fully equity financed.
2. Calculate the opportunity cost only. Fdr rate can be the best suitable. You need the reference.

S Annual sales in units

C Carrying Cost/Opportunity Cost. (Here, the current average of FDR is considered as the "C"/Opportunity Cost, as the operation is totally financed by equity).

FDR	11.39
-----	-------

*** EOQ $0 \left(\frac{2 \cdot F \cdot S}{c \cdot P} \right)$

F Ordering cost (placing and receiving an order)

S Annual sales in units

C Carrying costs expressed as a percentage of inventory value 0.1839

P Purchase price the firm must pay per unit of inventory

3 Ordering Period 2 weeks

Assumptions:

Relatively uniform & known demand rate

Fixed item cost

Constant lead time

Annual sales unit = annual inventory units

4. Total cost $c \cdot D + k \cdot d/Q + h \cdot q/2$

EOQ Calculation Table			
Description	Year 2010	Year 2011	Year 2012
Cost per Order	4,856,847,15	4,250,019,54	

Annual Demand	114,194.00	164,562.00	
Value of Inventory per unit	2,570.00	3,257.00	
Inventory Carrying Cost Rate	0.31	27%	0.29
Number of Units per Batch	5,000.00	5,000.00	5,000.00
Cost of Carrying inventory	2,022,901.61	2,183,808.31	2,160,829.73
Cost of Order	110,924,560.59	139,878,343.16	169,955,252.24
Total cost of inventory of carrying and set	112,947,462.20	142,062,151.47	172,116,081.97
Economic Order Quantity	37,025	40,016	44,343
Times of orders required	3	4	4

Inventory Turnover rate Calculation for Pharma (Annual Average)					
ITR based on Cost	Annual COGS (BDT)	Average Inventory at Cost (BDT)	Turnover	It Growth	IA. Turnover
Year-2010	2,389,742,000	3,781,417,500	0.63	-	0.52
Year-2011	3,864,900.00	4,045,577,000	0.98	0.55	0.58
Year-2012	3,386,670.00	1,635,292,000	2.07	1.11	0.83

ITR based on Sales	Sales (BDT)	Average Inventory at Sales (BDT)	0.96		
Year-2010	3,632,095,000	3,781,417,500	1.17	0.22	3.41
Year-2011	4,735,121,000	4,045,577,000	3.40	1.90	3.71
Year-2012	5,554,000,000	1,635,292,000			4.50
ITR based on Units of Merchandise	Sales in units	Average inventory in units			
Year-2010	114194	5753	24		
Year-2011	154562	6857	24		
Year-2012	155532	6481	24		
ITR based on Turnover Days	Sales in Periods	Average inventory Rate (Cost)			
Year-2010	335	0.63	212		175
Year-2011	336	0.98	329		193
Year-2012	336	2.07	162		277

Notes:

ITR based on Cost= Annual COGS/Average inventory at cost

ITR based on Sales= Sales/ Average inventory at Sales

ITR based on Units of Merchandise= Sales in Units/Average inventory in units

Inventory Turnover Days=Number of days in a Period/Inventory Turnover
Ideal Inventory Value= Annual COGS/ Industry Average Turnover Rate

* All sales are primary sales, Compare with industry ITR.