

# Bangladesh Pharmaceutical Industry: A Research on Financial Performance Based Analysis

Md Saikat Hosen\*, Md Shohidul Islam\*, Alam Rafikul\*

\*Master of International Business, College of Management,  
Capital Normal University, Beijing, CHINA.

DOI: 10.29322/IJSRP.11.02.2021.p11081  
<http://dx.doi.org/10.29322/IJSRP.11.02.2021.p11081>

**Abstract-** The research applies performance evaluation of pharmaceutical company in Bangladesh. It means evaluate how well the company performs. The main aim is achieved through ratio analysis of four pharmaceuticals (Beacon, ACI, GSKSmithkline and Square pharmaceutical Limited) companies in Bangladesh. The main data collection from the annual financial reports on Beacon, ACI, GSKSmithkline, and Square pharmaceutical companies in 2014 to 2019. The different financial ratios are evaluated such as liquidity ratios, asset management ratios, profitability ratios, market value ratios, debt management ratios, and finally measure the best performance among the Four companies. The mathematical calculation was establishing for ratio analysis among four companies from 2014-2019. The graphical analysis and comparisons are applying among Four companies for measurement of all types of financial ratio analysis. The Liquidity ratio is conveying the ability to repay short-term creditors and its total cash. Asset management ratio is a measurement of how to effectively a company to use and controls its assets. A Profitability ratio is evaluating how well a company is performing by analyzing and how profit was earned relative to sales, total assets and net worth for both pharmaceutical companies. Debt coverage ratio is performing that the property insufficient to collect their mortgage for both companies and market value to analysis their future market value of the stock market. Overall analyses are measurement the best one among Beacon, ACI, GSK Smithkline and Square Pharmaceutical Limited Companies.

**Index Terms-** Financial Performance, Altman Z-Score, Common size, Pharmaceutical Industry, Bangladesh.

## I. INTRODUCTION

Performance evaluation of a company is usually related to how well a company can use its assets, share-holder equity and liability, revenue, and expenses. Financial ratio analysis is one of the best tools of performance evaluation of any company, (Hosen, 2020). In order to determine the financial position of the pharmaceutical company and to make a judgment of how well the pharmaceutical company efficiency, its operation and management and how well the company has been able to utilize its assets and earn profit. The pharmaceutical industry in Bangladesh is one of the fastest-growing sectors, which is on the

brink of attaining self-sufficiency in meeting the country's domestic demand. Dominated mainly by the local manufacturers with their market share of around 87% and the rest by the multinational companies, the export earnings by the drug manufacturing firms now stand at approximately \$27.54 million to more than 90 countries globally (Haque & Islam, 2013). Pharmaceutical sector of Bangladesh is the third largest industry in terms of contribution to the government's revenue. There are about 250 registered small, medium, large and multinational pharmaceutical companies (a little over 100 are operating) in the country producing around 97% of the local demand and exporting the rest, (Nath, Islam, & Saha, 2015). A growing number of consulting companies and individuals specialize in helping clients identify their training needs; Square Pharmaceuticals Ltd. has its own TNA techniques, (Sultana, 2013). Bangladesh pharmaceutical industry has some strengths, which are as follows: (a) a strong production capacity; (b) well-established quality control facilities; and (c) skilled human resources. By fully utilizing these strengths, Bangladesh pharmaceutical companies have been able to produce numerous pharmaceutical products and export their products to other countries, (Mitsumori, 2018). Propelled by better health and education, lower vulnerability, and an economic boom, Bangladesh, Local producers are meeting 98% of the country's demand for medicines, and there are 851 factories functioning in Bangladesh for the production of medicines. (Ferdous & Ishtiaque, 2013). Of them, 266 are producing allopathic drugs, 26 are producing Unani medicine, 207 Ayurvedic, 79 homeopathic and 32 herbal medicines. (Islam, Rahman & Al-Mahmood, 2018).

We have used ratio analysis for easy measurement of liquidity position, asset management condition, profitability, and market value and debt coverage situation of the pharmaceutical company for performance evaluation. It determines of share market condition of the pharmaceutical companies. It also used to analysis the pharmaceutical company past financial performance, and to establish the future trend of financial position.

## II. LITERATURE REVIEW

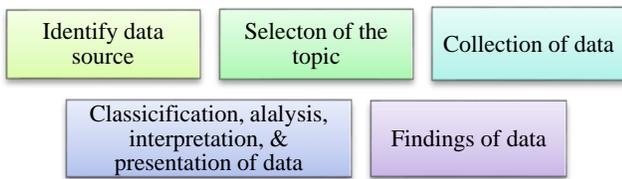
The Financial Ratio Analysis for Performance evaluation. Its analysis is typically done to make sense of the massive amount of numbers presented in company financial statements. It helps evaluate the performance of a company, so that investors can decide whether to invest in that company. Here we are looking at the different ratio categories in separate articles on different aspects of performance such as profitability ratios, liquidity ratios, debt ratios, performance ratios, investment evaluation ratios (Hosen, 2020). The Profitability Ratio Analysis of Income Statement and Balance Sheet Ratio analysis of the income statement and balance sheet are used to measure company profit performance. The income statement and balance sheet are two important reports that show the profit and net worth of the company, (Islam, 2021). The Profitability Ratios Measure Margins and Returns such as gross, Operating, Pretax and Net Profits, ROA ratio, ROE ratio, ROCE ratio. However, he determines the Gross profit is the surplus generated by sales over the cost of goods sold. He discussed about the Gross Profit Margin =  $\text{Gross Profit/Net Sales or Revenue}$ , (Islam & Khan, 2019). The return on assets is an important percentage that shows the company's ability to use its assets to generate income. The high percentage indicates that the company's is doing a good utilizing the company's assets to generate income, (Sultana, 2016). To perform inventory analysis and inventory turnover analysis to better understand a business as well as to identify effective inventory management. He knows that there are three types of business inventory: Raw Materials (RM), Work-In-Progress (WIP), Finished Goods (FG), (Tazin, 2016). Fixed assets are assets that are used in the production or supply of goods or services and are to be used within the business for more than one financial year. Consequently, fixed assets represent the company's long term income-generating assets, and they can either be tangible or non-tangible. It includes land and buildings, plant and equipment, golf courses, casinos, football players, machinery and hotels depending on the nature of the business under consideration, (Sharif & Islam, 2018). The accounts receivable is an important analytical tool for measuring the efficiency of receivables operations is the accounts receivable turnover ratio. Many companies sell goods or services on account. This means that a customer purchases goods or services from a company but does not pay for them at the time of purchase. Payment is usually due within a short period of time, ranging from a few days to a year, (Ferdous & Ishtiaque, 2013). Fixed costs are those costs that are always present, regardless of

## III. METHODOLOGY

We have used the model for the performance evaluation of pharmaceutical companies. It indicates the different steps such as selection of financial report, Identification of balance sheet, income statement and cash flow statement, ratio analysis, mathematical calculation, statistical analysis of companies, comparison of among both companies and declaration of best one among both companies. The first step of model, we did the selection of financial report that means choose of annual financial report. The annual financial report presents financial data of a company's position, operating performance, and funds

how much or how little is sold. Some examples of fixed costs include rent, insurance, and salaries. Variable costs are the costs that increase or decrease in ratios proportion to sales, (Hosen, 2020). Debt collection and debt recovery tools a company guide to using debt solution tools for effective debt collection: credit insurance, a solicitor or debt attorney or a debt collection agency. Moreover, collection of accounts receivable, debt collection or debt recovery is an important source of a company's cash flow and business finance. As such, learning about credit management and debt recovery can prove vital for entrepreneurs, (Mitsumori, 2018). Fast extension within the economies of China and Southeast Asia, combined with government and private wellbeing care activities, (Hosen, 2020). Is making major openings for pharmaceutical companies in this locale. In all of the nations looked into here, pharmaceutical showcase development comes to twofold digits over the past five a long time and is anticipated to stay solid well into the following century (Islam, 2021). The markets in Indonesia and the Philippines, each worth well over \$1 billion, developed 25% and 18%, individually, in 1995. In spite of the fact that development has not been as confounding in Thailand, where deals come to \$900 million in 1995, deals by foreign-based companies are growing quickly. In Malaysia, the government is growing and privatizing wellbeing administrations and is advertising motivations for the outside ventures. (Sultana, 2016). Moreover, a positive factually significant relationship between the number of days in stock and profitability was backed proposing that firms that stock-up and keep up their stock levels endure less from stock-outs and dodge challenges of securing financing when needed (Tazin, 2016). Working capital is the subordinate variable whereas firm size, profitability, use, working cycle, development and level of economic action are autonomous variable. Working capital is contrarily connected with firm measure whereas positively linked with development and level of financial action for UK Pharmaceutical firms. (Sharif & Islam, 2018). A ponder on Nigerian Manufacturing Companies found a critical negative relationship between the components of working capital (DCP, APP and ITID) and productivity (ROI). The relationship and spearman's positioning strategy indicates a weak relationship and a negative relationship between liquidity and productivity. (Hoq, Ahsan & Tabassum, 2013). Pharmaceutical division is one of the dynamic businesses in Bangladesh that have the tremendous commitment to the economic development of the nation. The Sedate Control Act, 1982 is one of the proclaiming variables for the quick development of this division. (Islam & Khan, 2019).

flow for an accounting period. The study period is 06 years (2014 to 2019) performance of each company. We have selected the four highly reputed companies entire the pharmaceuticals industry are ACI pharmaceuticals limited, Beacon pharmaceuticals limited, Glaxosmithkline Bangladesh limited, and Square pharmaceuticals limited. Which company's performance is the better than other pharmaceuticals companies. We tried to select the company which level is "A" category which company's share demand is high in Dhaka stock exchange and Chattogram stock exchange better than others company.



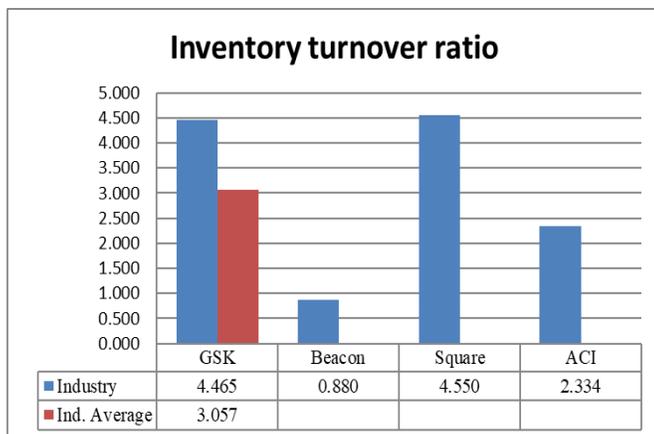
Author own design Model.

Measurement the ratio analysis for any company, we must be used in annual financial report otherwise we don't measurement. we have also used four main financial statements for ratio analysis of pharmaceutical company such as; balance sheets, an income statement, cash flow statement; statement of shareholder's equity. The purpose of this study, we have collected data from other secondary sources such as, yearly financial report from Bangladesh Bank, published papers, journals, books, newspaper reports, and so on. The data has been analyzed by using Microsoft excel 2016 version.

#### IV. DISCUSSION

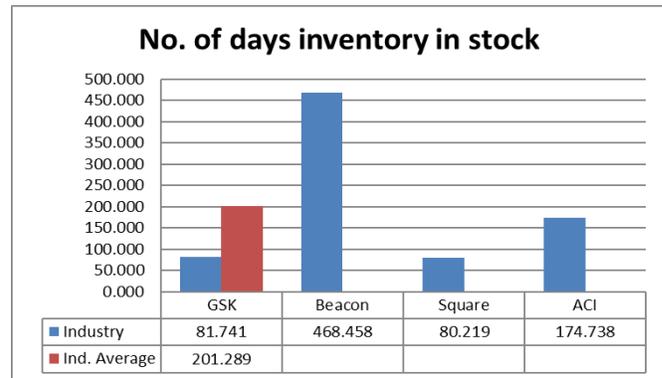
1. Activity Ratio: Activity ratios are financial metrics used to gauge how efficient a company's operations are. The term can include several ratios that can apply to how efficiently a company is employing its capital or assets, (Hosen, 2020).

1.2 The inventory turnover ratio= COGS/ Average inventory (times)



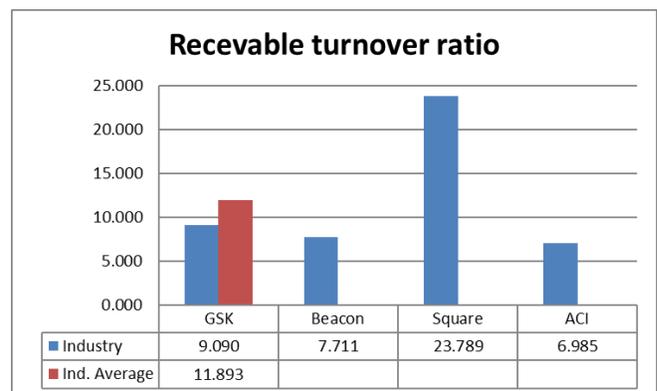
Comment: According to the findings of Inventory Turnover ratio shows that, Square Pharmaceuticals ware is better performing in the industry. Where Industry average is 3.057 times and Square Pharmaceuticals 4.550 times, that means they turn raw materials into finished goods over year 4.550 times.

1.2 Number of days' inventory in stock=365/Inventory turnover ratio {days}



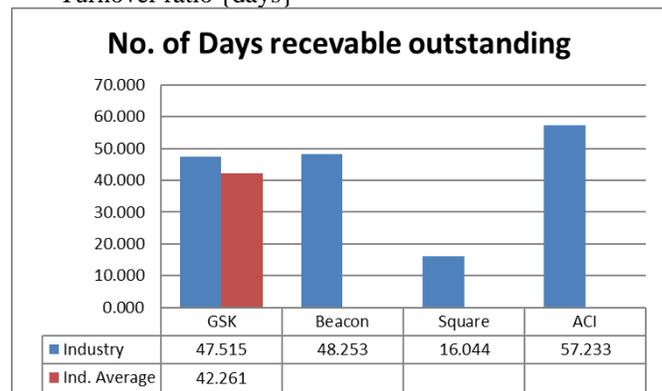
Comment: According to the findings of Inventory turnover ratio shows that, Square Pharmaceuticals Limited ware is better performing in the industry. Where Industry average is 201.289 days and Square Pharmaceuticals Ltd 80.219 days, that means they turn inventory in stocks over year 80.219 days.

1.3 Account Receivable turnover ratio (ARTR)= Sales/ Account Receivable (times)



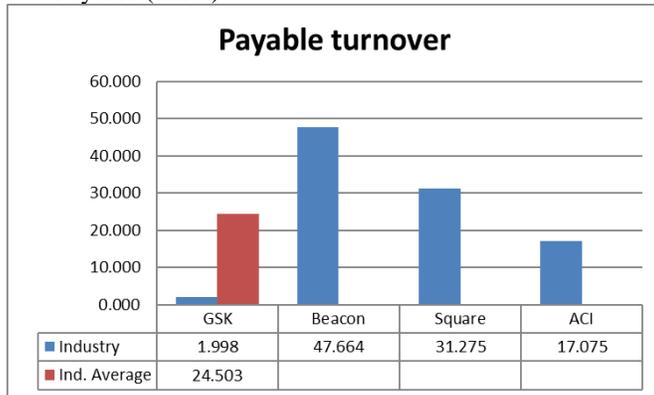
Comment: According to the findings of Inventory turnover ratio shows that, Square Pharmaceuticals Limited ware is better performing in the industry. Where Industry average is 11.893 times and Square Pharmaceuticals Limited 23.789 times, that means they turn Receivable over year 23.789 times.

1.4 No. of Days receivable outstanding=365/Receivable Turnover ratio {days}



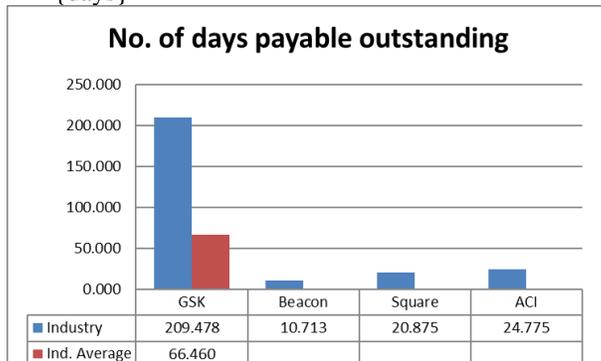
Comment: According to the findings of Receivable outstanding ratio shows that, Square Pharmaceuticals Limited ware is better performing in the industry. Where Industry average is 42.261 days and Square Pharmaceuticals Limited 16.044 days that mean they receive amount over year 16.044 days

1.5 Account Payable turnover (APT)= Purchase/Account Payable (times)



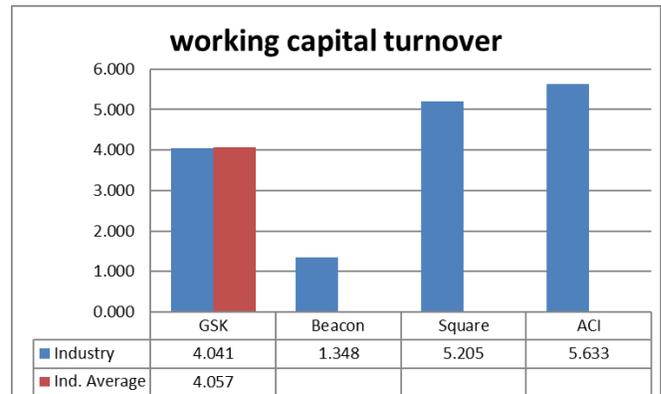
Comment: According to the findings of Payable turnover ratio shows that, Square Pharmaceutical Is Limited ware is better performing in the industry. Where industry average is 24.503 times and Square Pharmaceuticals Limited 31.275 times, that means they turn Payable over year 31.275 times.

1.6 No. of days payable outstanding=365/Payable turnover {days}



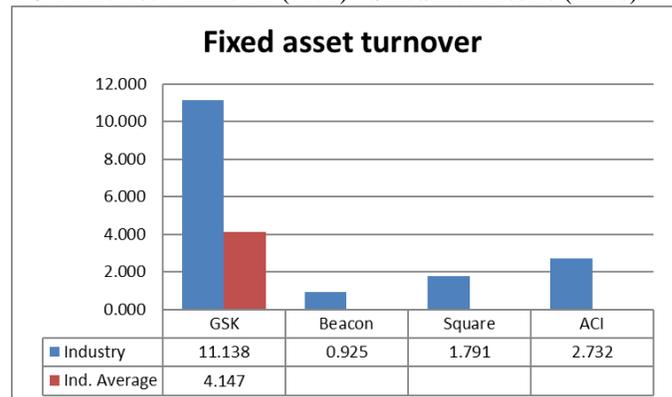
Comment: According to the findings of Payable outstanding ratio shows that, GSKsmithkline Bangladesh Ltd ware is better performing in the industry. Where Industry average is 66.460 days and GSKsmithkline Bangladesh Ltd 209.478 days that means they Payable amount over year 209.478 days.

1.7 Working capital turnover (WCT)= Sales/Working Capital (times)



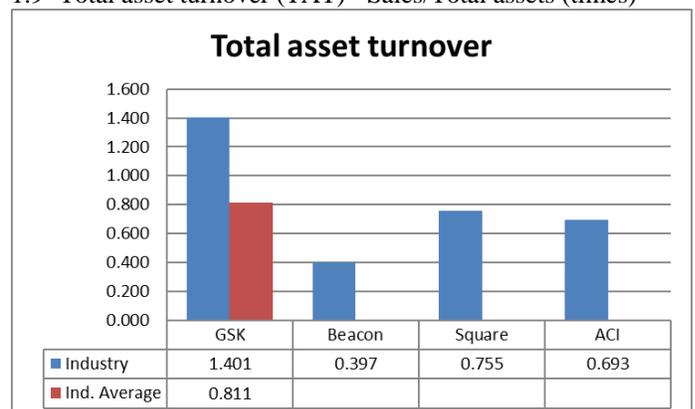
Comment: According to the findings of Working capital turnover ratio shows that, ACI Pharmaceuticals Ltd. Ware better performing in the industry. Where industry average is 4.057 times and ACI Pharmaceuticals Ltd. Is 5.633 times, that means Working capital amount of operating capital needed to maintain a given level of sales over year 5.633 times.

1.8 Fixed asset turnover (FAT)= Sales/fixed assets (times)



Comment: According to the findings of fixed asset turnover ratio shows that, GSKsmithkline Bangladesh Ltd. ware is better performing in the industry. Where Industry average is 4.147 Times and GSKsmithkline Bangladesh Ltd. 11.138 Times that means Fixed asset turnover ratios measure the efficiency of long term capital investment. To generate sales a given level of sales over year 11.138 Times.

1.9 Total asset turnover (TAT)= Sales/Total assets (times)

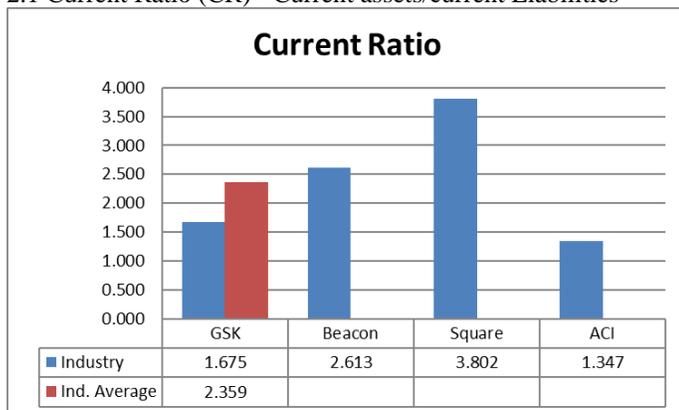


Comment: According to the findings of total assets turnover ratio shows that GSKsmithkline Bangladesh Ltd. ware is better performing in the industry. Where Industry average is 0.811

Times and GSKsmithkline Bangladesh ltd.1.401 Times that means total assets turnover indicates the efficiency with which the firm uses its assets to generate sales a given level of sales over year 1.401 Times.

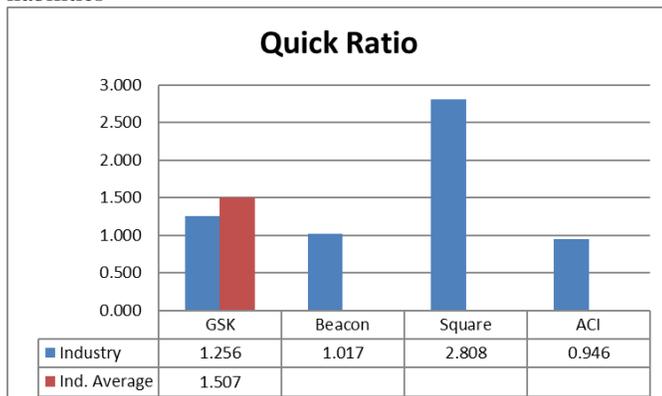
2. Liquidity Ratio: In accounting, the term liquidity is defined as the ability of a company to meet its financial obligations as they come due. The liquidity ratio, then, is a computation that is used to measure a company's ability to pay its short-term debts, ((Islam, 2021).

2.1 Current Ratio (CR)= Current assets/current Liabilities



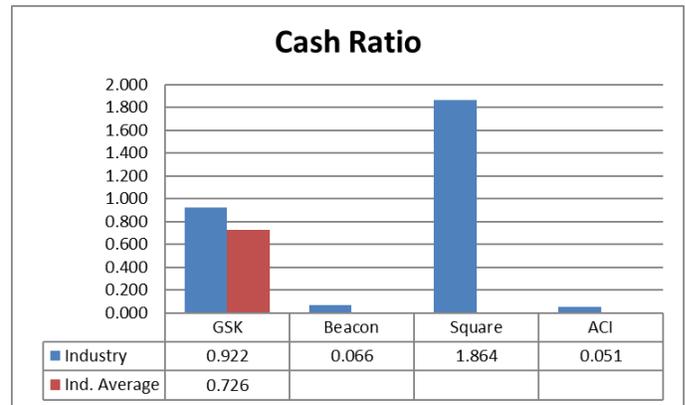
Comment: According to the findings of Current Ratio shows that, Square pharmaceuticals ltd. ware is better performing in the industry where Industry average is 2.359 Square pharmaceuticals ltd. 3.802 that means the firm's ability to meet its short term obligation over year 3.802.

2.2 Quick Ratio (QR)= (current assets – inventories) /current liabilities



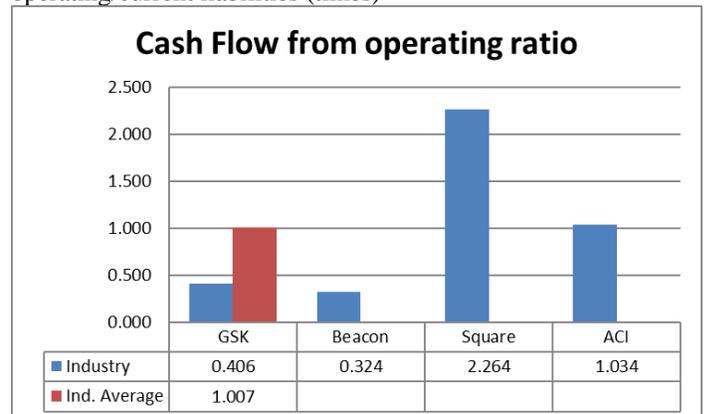
Comment: According to the findings of Quick Ratio shows that, Square pharmaceuticals ltd. ware is better performing in the industry. Where the Industry average is 1.507 and Square pharmaceuticals ltd. 2.808 It actually measures the immediate short-term debt paying ability over year 2.808.

2.3 Cash Ratio (CR)= cash + mar. Sec/current liabilities



Comment: According to the findings of Cash Ratio shows that, Square pharmaceuticals ltd. ware is better performing in the industry. Where Industry average is 0.726 and Square pharmaceuticals ltd.1.864. It measures actual cash and securities easily convertible to cash are used to measure cash ability over year 1.864.

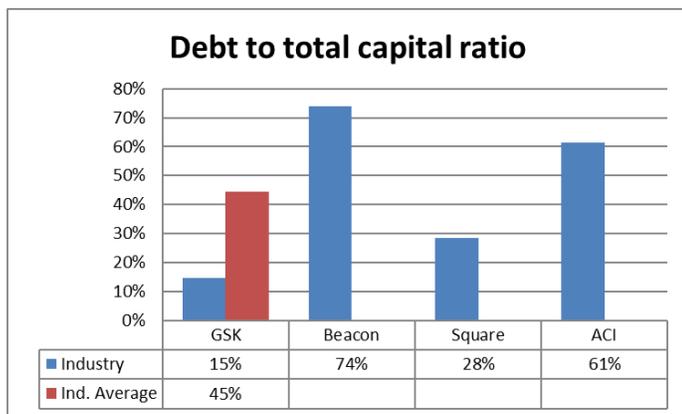
2.4 Cash flow from operating ratio= cash flow from operating/current liabilities (times)



Comment: According to the findings of Cash flow from operating ratio shows that, Square pharmaceuticals ltd. ware is better performing in the industry. Where Industry average is 1.007 times and Square pharmaceuticals ltd. 2.264 this ratio measures liquidity by comparing actual cash flows- instead of current and potential cash resources, with current liabilities over year 2.264 times.

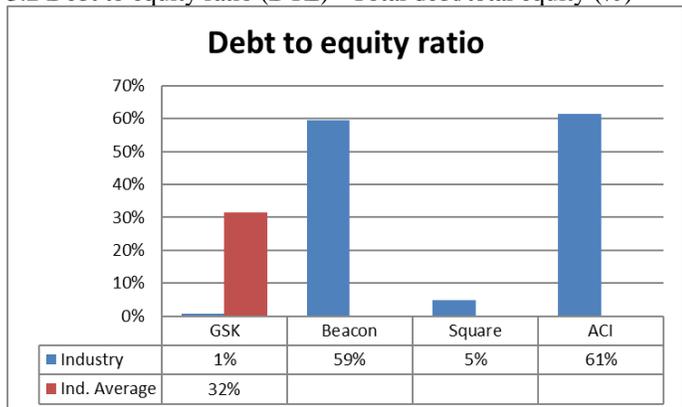
3. Long Term Debt and Solvency analysis:

3.1 Debt to total capital ratio (DTTC)=Total debt /total capital=(Shareholder's Equity + Debt) (%)



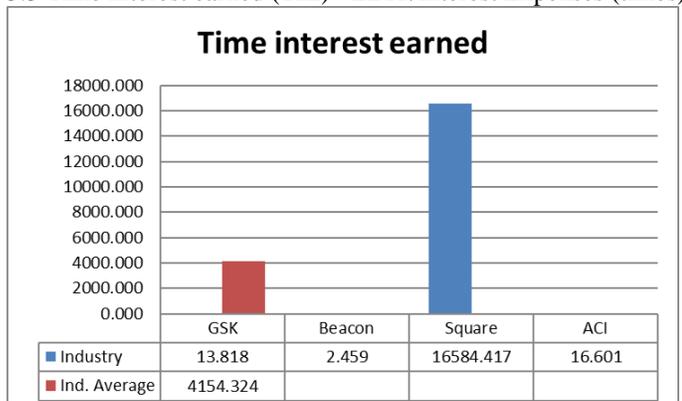
Comment: According to the findings of Debt to total capital ratio shows that, Beacon pharmaceuticals Ltd. is better performing in the industry. Where the Industry average is 45% and Beacon pharmaceuticals Ltd. 74%. This ratio measures a higher proportion of debt relative to equity increases the riskiness of the firm over year 74%.

### 3.2 Debt to equity ratio (DTE) = Total debt/total equity (%)



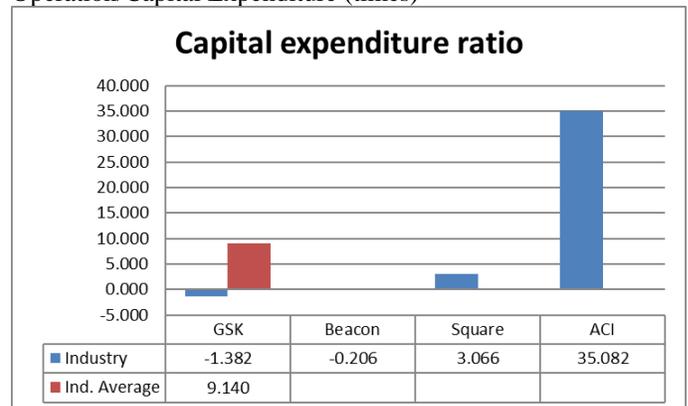
Comment: According to the findings of Debt to Equity ratio shows that, Beacon pharmaceuticals Ltd. is better performing in the industry where Industry average is 32%. The Beacon pharmaceuticals Ltd. Debt to equity is 59%.

### 3.3 Time interest earned (TIE) = EBIT/Interest Expenses (times)



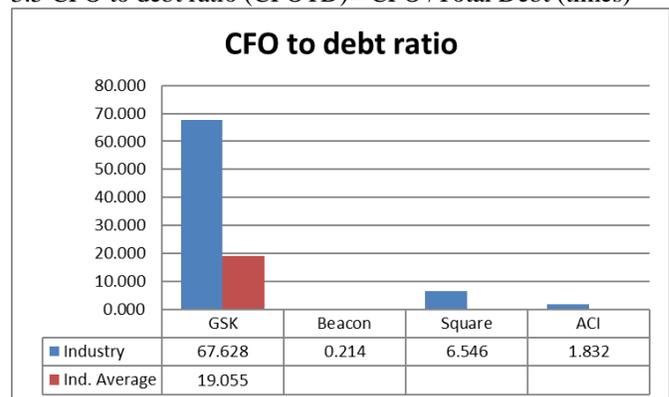
Comment: According to the findings of Time interest earned ratio shows that, Square pharmaceuticals Ltd. is better performing in the industry. Where Industry Average is 8572.613% and Square pharmaceuticals Ltd. 33806.968%.

### 3.4 Capital expenditure ratio (CE) = Cash Flow from Operation/Capital Expenditure (times)



Comments: According to the findings of capital expenditure ratio shows that, ACI Pharmaceuticals Ltd. is better performing in the industry. Where industry average is 9.140 and ACI Pharmaceuticals Ltd is 35.082.

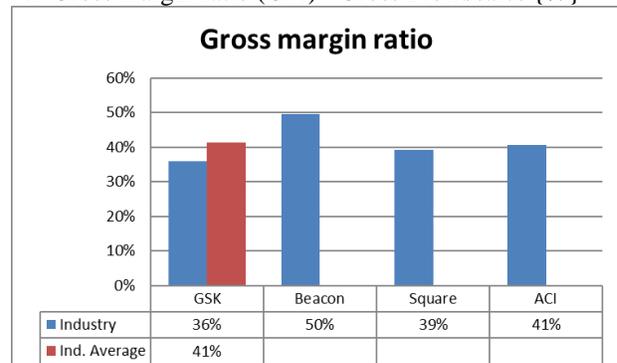
### 3.5 CFO to debt ratio (CFOD) = CFO /Total Debt (times)



Comment: According to the findings of CFO to Debt Ratio shows that, GSKSmithkline Bangladesh limited is better performing in the Industry. Where Industry average is 19.055 and GSKSmithkline Bangladesh Ltd. indicates the firm has cash left for debt repayment or dividends after capital expenditures. 67.628.

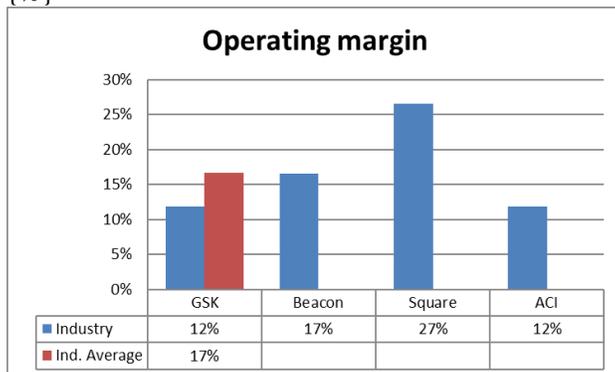
## 4. Profitability Ratio

### 4.1 Gross margin ratio (GM) = Gross Profit/sales (%)



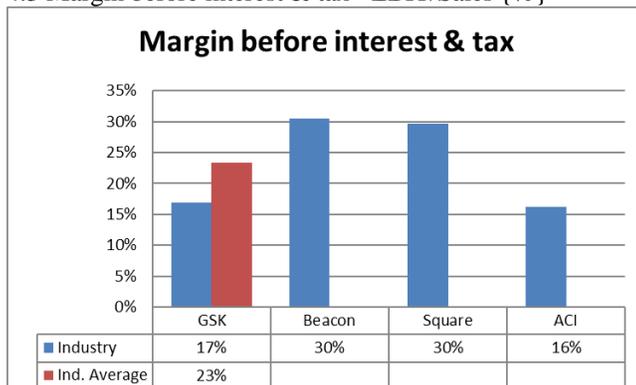
Comment: According to the findings of Gross Margin ratio shows that, Beacon pharmaceuticals Ltd. is better performing in the industry. Where Industry average is 41% it shows the relationship between the sales and manufacturing or merchandising cost. Beacon pharmaceuticals Ltd. has 50%.

4.2. Operating Profit margin (OFM)= Operating Income/Sales { % }



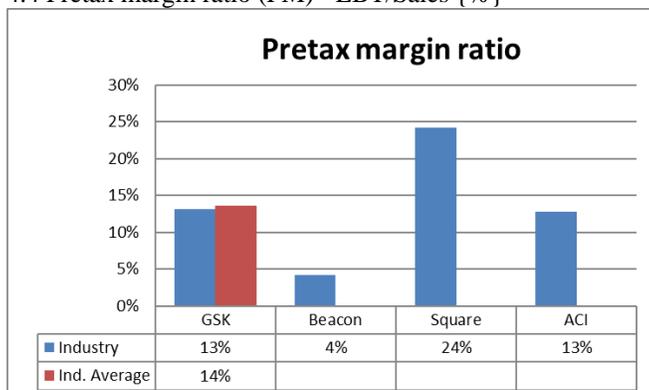
Comment: According to the findings of Operating Margin ratio shows that, Square pharmaceuticals ltd. are better performing in the industry. Where Industry average is 17% It shows the firm's profitability from the operations of its core business. Excluding the effect and Square pharmaceuticals ltd. has 27%.

4.3 Margin before interest & tax= EBIT/Sales { % }



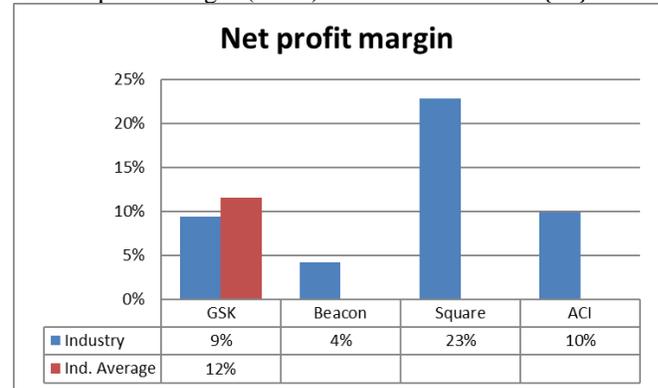
Comment: According to the findings of Margin Before interest & Tax ratio shows that, Beacon pharmaceuticals ltd. are better performing in the industry. Where Industry average is 23% It shows that the firm is independent of both the financing and tax positions and Beacon pharmaceuticals ltd. has 30%.

4.4 Pretax margin ratio (PM)= EBT/Sales { % }



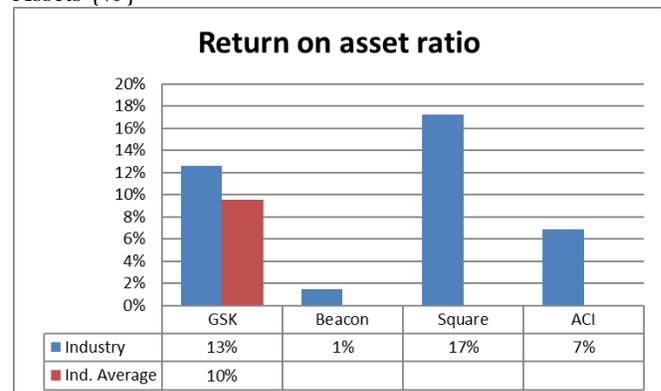
Comment: According to the findings of Pretax Margin ratio shows that, Square pharmaceuticals ltd. are better performing in the industry. Where Industry average is 14% this ratio is calculated after financing cost (interest expenses) but prior to income taxes and Square pharmaceuticals ltd. has 24%.

4.5 Net profit margin (NPM) =Net income /Sales { % }



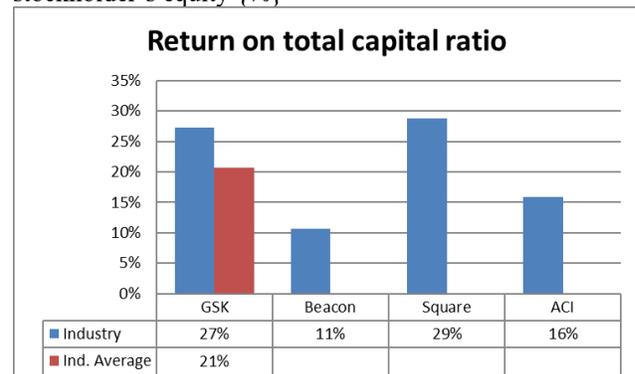
Comment: According to the findings of Net Profit margin ratio shows that, Square pharmaceuticals ltd. are better performing in the industry. Where Industry average is 12% this ratio measures the percentage of each dollar remaining after all costs and expenses, including interest, taxes, and preferred dividends, have been deducted and Square pharmaceuticals ltd. has 23%.

4.6 Return on asset ratio (ROA)= Net Income/Average total Assets { % }



Comment: According to the findings of ROA ratio shows that, Square pharmaceuticals ltd. are better performing in the industry. Where Industry average is 10% ROA compares income with total assets and Square pharmaceuticals ltd. has 17%.

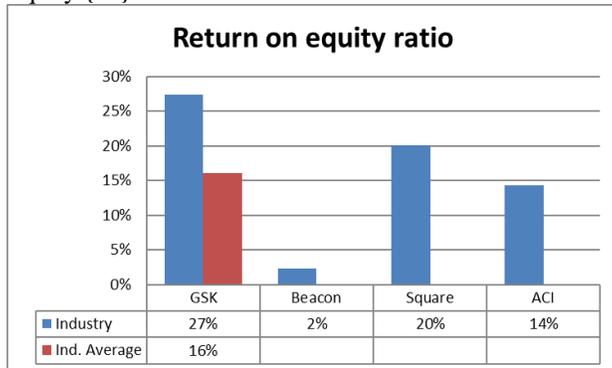
4.7 Return on total capital ratio (ROTC)= EBIT/Total Debt + stockholder's equity { % }



Comment: According to the findings of ROTC ratio shows that, Square Pharmaceuticals Ltd. are better performing in the

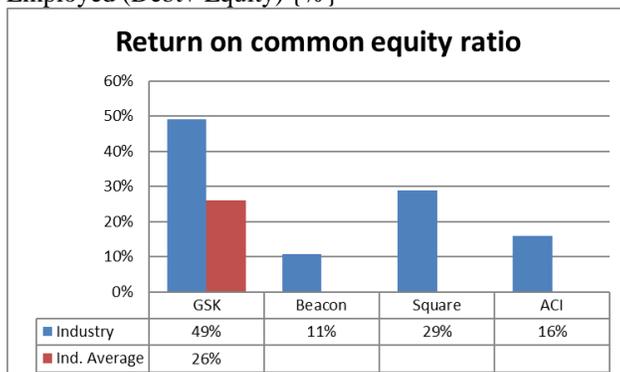
industry. Where Industry average is 21% ROTC measures profitability relative to all (non-trade) capital providers and Square Pharmaceuticals Ltd. has 29%.

4.8 Return on equity ratio (ROE)= Net Income/Stockholders Equity { % }



Comment: According to the findings of ROE ratio shows that, GSKsmithkline Bangladesh Ltd. where is better performing in the industry. Where Industry average is 16% ROE measures the profitability of owners' investment. And GSKsmithkline Bangladesh Ltd. has 27%.

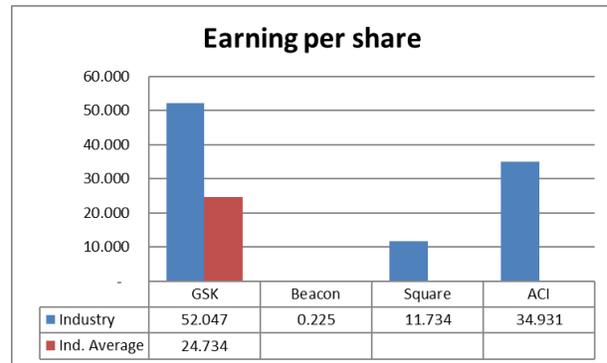
4.9 Return on common equity ratio (ROCE)= EBIT/Capital Employed (Debt+ Equity) { % }



Comment: According to the findings of ROCE ratio shows that, GSKsmithkline Bangladesh Ltd. where is better performing in the industry. Where Industry average is 26% ROCE Companies with preferred equity can measure the return to their residual owners—common shareholders. And GSKsmithkline Bangladesh Ltd. has 49%.

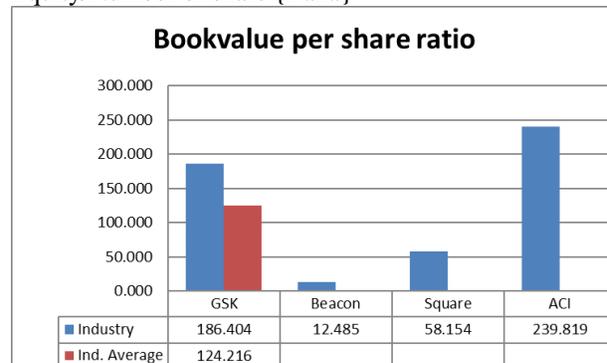
## 5. Marketability Ratio

5.1 Earnings per share (EPS)= Net Income/Number of Shareholder {Taka }



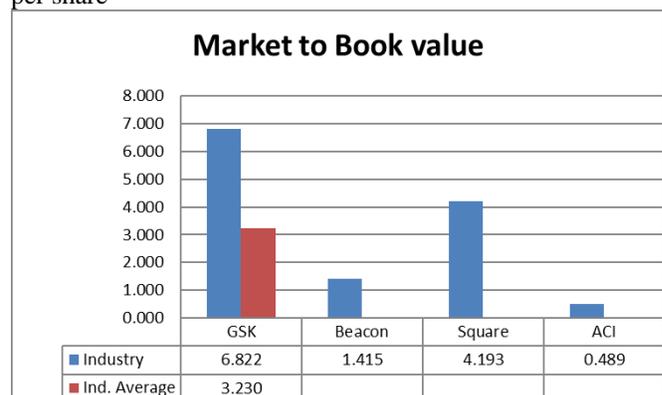
Comment: According to the findings of EPS Ratio shows that, Beacon pharmaceuticals ltd is better performing in the industry. Where Industry average is 24.734 Taka and Beacon pharmaceuticals ltd. has 0.225 taka.

5.2 Book value per share ratio (BVPS) =Total shareholder Equity/Number of share {Taka }



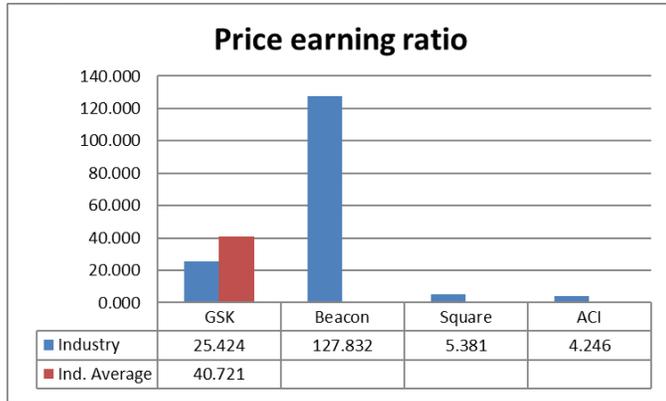
Comment: According to the findings of Book Value per Share Ratio shows that GSKsmithkline Bangladesh Ltd is better performing in the industry. Where Industry average is 124.216 Taka and GSKsmithkline Bangladesh Ltd has 186.404 taka.

5.3 Market to Book value= Market price per share/Book value per share



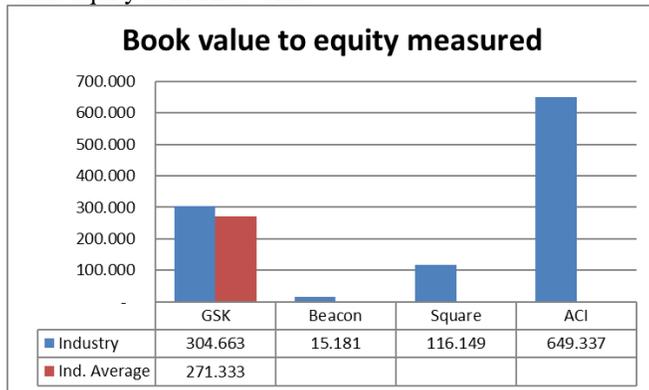
Comments: In this case, the market value per ratio is increase by the GSK Bangladesh Company. It means the goods position of that company. on the other hand, square, ACI and Beacon pharmaceutical company is well position. But it is not good condition for market value per share.

5.4 Price earnings ratio= Market Price per Share / Earnings per Share



Comment: In this graph show that price earnings ratio of Beacon Pharmaceuticals Ltd is better than others. The investors want to invest 127.832 taka against 1-taka profit.

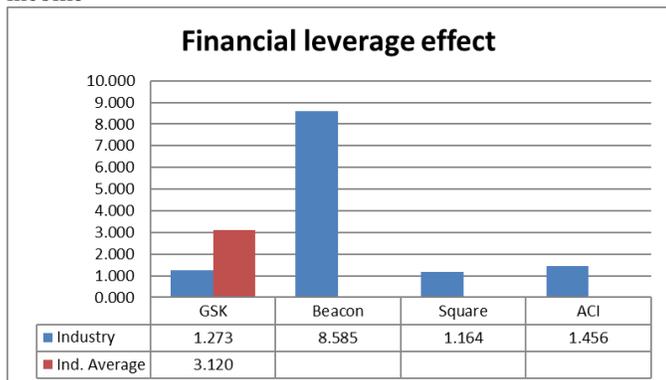
5.5 Book value to equity measured= total debt at book value/equity at market value



Comments: According to the findings of Book to equity Ratio shows that, ACI Pharmaceuticals Limited is better performing in the industry. Where Industry average is 271.333 and ACI Pharmaceuticals Ltd Has 649.337.

6. Leverage Ratio: A leverage ratio is any one of several financial measurements that look at how much capital comes in the form of debt (loans), or assesses the ability of a company to meet its financial obligations.

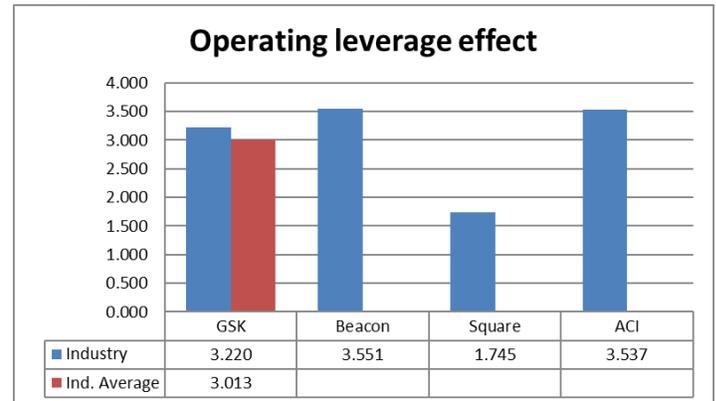
6.1 Financial leverage Effect (FLE)= Operating income/ Net income



Comments: According to the findings of financial leverage effect shows that, Beacon Pharmaceuticals Limited is better performing

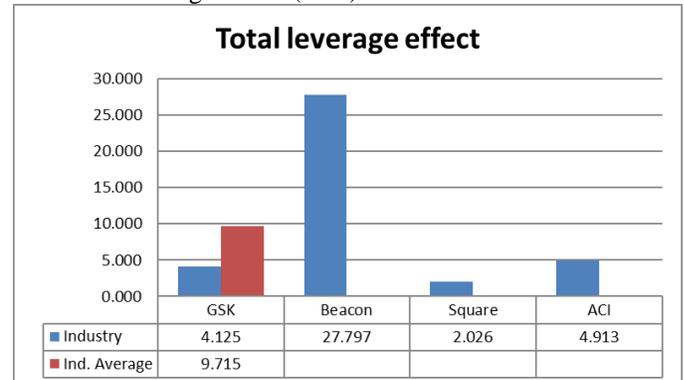
in the industry. Where Industry average is 3.120 and Beacon Pharmaceuticals Has 8.585.

6.2 Operating leverage effect (OLE)= Gross profit /operating income



Comments: according to the findings of Operating leverage effect shows that, Beacon Pharmaceuticals Limited is better performing in the industry. Where Industry average is 3.013 and Beacon Pharmaceuticals Has 3.551.

6.3 Total Leverage Effect (TLE)= OLE\*FLE



Comments: According to the findings of Total leverage effect shows that, Beacon Pharmaceuticals Limited is better performing in the industry. Where Industry average is 9.715 and Beacon Pharmaceutical has 27.797.

7. Common Size Analysis of Balance sheet

| Particular                 | GSK         | Beacon      | Square      | ACI         |
|----------------------------|-------------|-------------|-------------|-------------|
| <b>Total Assets</b>        | <b>100%</b> | <b>100%</b> | <b>100%</b> | <b>100%</b> |
| <b>Current Assets</b>      | <b>87%</b>  | <b>47%</b>  | <b>49%</b>  | <b>60%</b>  |
| <b>Current Liabilities</b> | <b>58%</b>  | <b>22%</b>  | <b>8%</b>   | <b>38%</b>  |
| <b>Fixed Assets</b>        | <b>11%</b>  | <b>41%</b>  | <b>37%</b>  | <b>31%</b>  |
| <b>Total Debt</b>          | <b>0%</b>   | <b>37%</b>  | <b>2%</b>   | <b>14%</b>  |
| <b>Total Equity</b>        | <b>42%</b>  | <b>59%</b>  | <b>90%</b>  | <b>57%</b>  |

Table: 01

Comments:

A. Liquidity point of view (Current assets versus Current liabilities) Square Pharmaceuticals Ltd. Is more liquidity (49% versus 8% Liabilities) Compare to the GSK, Beacon and ACI.

B. Sale generating ability point of view (fixed assets versus total assets) Beacon is more ability (41% fixed asset of total assets) to generate sales compare to GSK, Square and ACI.

C. Solvency point of view (debt versus total assets) Beacon is more solvent (37% vs 100%) compare to GSK, Square and ACI.

D. Owners point of view (Equity versus total assets) square hold more owner’s investment (90% versus 100%) Compare to GSK, Beacon and ACI.  
your paper.

8. Common Size Analysis of Income Statement

| Particulars      | GSK  | Beacon | Square | ACI  |
|------------------|------|--------|--------|------|
| Sales            | 100% | 100%   | 100%   | 100% |
| Gross Profit     | 39%  | 50%    | 43%    | 12%  |
| Operating Profit | 13%  | 9%     | 29%    | 9%   |
| Fixed Charge     | 0%   | 5%     | 0%     | 0%   |
| Net Income       | 10%  | 4%     | 23%    | 9%   |

Table: 02

Comments:

- A. Gross profit margin point of view (gross profit versus sales) Beacon is more profitable (50% of 100% sales) compare to GSK, Square and ACI.
- B. Operating profit point of view (Operating versus sales) Square is the more profitable (25% of 100% sales) compare to GSK, Beacon and ACI.
- C. Fixed charge obligation point of view (fixed charge versus sales) Comparability Beacon is better than GSK, Square and ACI.
- D. Net profit margin point of view (Net income versus sales) Square is more profitable (23% out of 100%) compare to GSK, Beacon and ACI.

9. Altman Z-Score

The Altman Z-Score (named after Edward Altman, the New York University professor who devised it) is a statistical tool used to measure the likelihood that a company will go bankrupt.

| Zones of Discrimination |                                |
|-------------------------|--------------------------------|
| 1.                      | 1.23 or less – “Distress” Zone |
| 2.                      | From 1.23 to 2.9 – “Grey” Zone |
| 3.                      | 2.9 or more – “Safe” Zone      |

| Particular | GSK  | Beacon | Square | ACI  | Ind. Av. |
|------------|------|--------|--------|------|----------|
| Results    | 3.08 | 1.61   | 5.22   | 1.81 | 2.93     |

Table: 03

Comments:

- A. Beacon & ACI is in "Grey" Zone. Because their z-score is Beacon 1.61 and ACI 1.81 Which is from 1.23 to 2.9
- B. GSK and Square is in "Safe" Zone. Because their z-score is Square 5.22 and GSK 3.08 Which is 2.9 and above.

V. RECOMMENDATION

- The Square and GSK have enough inventory so the Beacon and ACI should to increase inventory
- The Beacon Pharmaceuticals should to increase production; we know that the beacon pharmaceutical’s number of day’s inventory stock is high.
- The Beacon and ACI Pharmaceuticals should to increase working capital. Because the working capital help to increase production.
- The Beacon should do decrease times of payable and GSK should to increase the payable.
- The Beacon, ACI and GSK should to increase the times of receivable. Because it increases the capital.
- The Square, ACI and Beacon should to increase the fixed assets because the fixed asset increases the production.
- The beacon and ACI must should to increase the Cash in hand.
- The industries should to develop the dividend policy system.
- The all of companies some sector’s performance is not satisfied so the company should to take appropriate action to develop financial position.
- The pharmaceuticals companies should to introduce more innovative and modern product and service for their product.
- The beacon and GSK pharmaceuticals should to reduce the cost of goods sold which is decrease the gross profit margin.
- The beacon, ACI and Square should to increase the EPS.
- Beacon and ACI should to concentrate on their profitability.
- Beacon, ACI and GSK has sufficient workforce should be employed in the relevant sectors.

VI. CONCLUSION

The conclusion chapter is directly connected to the purpose. The analysis is summarized in order to answer the research

questions and fulfill the purpose of the study. This thesis is based on six main research questions. First, we analyzed liquidity measures that indicate the current ratio is a bad condition for both companies. Quick and asset measures have been found the same position as previous ratios, and the cash ratio measures the Square pharmaceutical company is better than the other pharmaceutical companies. So, it is noticed that the Square pharmaceutical is better condition in liquidity position comparing that Beacon, ACI and GSK pharmaceutical companies. Second, we analyzed all efficiency measures, account receivable turnovers, average collection period, inventory turnovers, account payable turnovers, fixed assets turnovers, total asset turnovers. The Square Pharmaceutical Company is a significant increase in account receivable turnover and account payable in days' compare to the Beacon, ACI and GSK Pharmaceuticals Companies. The Beacon, ACI and GSK Pharmaceutical companies also are increased in some measures and decreased in some measures but increasing points are not better than the Square Pharmaceutical Company. It has been found that the Square pharmaceutical is in a standards position for asset management measures. Third, the profitability measures indicate the Square Pharmaceutical are more profitable than the Beacon, ACI and GSK pharmaceutical companies specifically in net profit margin, gross profit margin, return on assets (ROA), return on equity (ROE), operating profit margin. Overall Net profit margin is found rising for Square pharmaceutical company. Gross profit margin of Beacon Pharmaceutical Company is found to increase than its returns of asset. Whereas, in opposite the others pharmaceutical company is decreased day by day. Return in Equity and Operating profit margin is found increasing in Square and GSK pharmaceutical companies. On the other, the Square pharmaceutical company is in better condition to be profitable. Forth, the debt management measures, debt ratio, time interest earned, book value per share of ACI and Beacon companies are riskier than Square and GSK Pharmaceutical companies'. It observed that debt ratio, Book value per share ratio are rising trends for Square and GSK pharmaceutical companies. Fifth, the market value measure indicates that market value and earnings per share are increase for GSK Pharmaceutical. In contrast, Square pharmaceutical is also increased but the market value ratio is slightly decreased. In final, considering all major financial ratios and overall performance index, it is observed that the Square Pharmaceutical Company has the best performance among the ACI, Beacon and GSK Pharmaceutical Companies.

#### ACKNOWLEDGMENT

Thanks to **Professor Xiangfei Gong**, College of Management, Capital Normal University, Beijing, China for her continuous supervision on this research.

#### REFERENCES

- [1] Ahmed. G. U. (2019). 'Annual Report 2018'. Beacon Pharmaceuticals Limited. <https://www.beaconpharma.com.bd/wp-content/uploads/2018/12/Annual-Report-2018.pdf>
- [2] Anis, S. (2018). 'Annual Report 2017'. ACI Pharmaceuticals Limited. <https://www.aci-bd.com/assets/files/financial/annual-report/aci-limited-annual-report-2016-2017.pdf>
- [3] Ali, S. M. (2020). 'Annual Report 2019'. Beacon Pharmaceuticals Limited. <https://www.beaconpharma.com.bd/wp-content/uploads/2019/12/Annual-Report-2019-1.pdf>
- [4] Ali, M. S. (2017). 'SPL Annual Report 2016-17'. Square Pharmaceucals Ltd. [http://www.squarepharma.com.bd/SPL\\_AR\\_17-min.pdf](http://www.squarepharma.com.bd/SPL_AR_17-min.pdf)
- [5] Ali, S. M. (2017). 'Annual Report 2016'. Beacon Pharmaceuticals Limited. <https://www.beaconpharma.com.bd/wp-content/uploads/2016/12/Annual-Report-2016.pdf>
- [6] Ali, M. S. (2016). 'SPL Annual Report 2015-16'. Square Pharmaceucals Ltd. [http://www.squarepharma.com.bd/spl\\_15\\_16.pdf](http://www.squarepharma.com.bd/spl_15_16.pdf)
- [7] Ali, M. S. (2015). 'SPL Annual Report 2014-16'. Square Pharmaceucals Ltd. <http://www.squarepharma.com.bd/Square%20Pharma%20Annual%20Report%202014-2015.pdf>
- [8] Chowdhury, A. M. (2017). 'Annual Report 2016'. ACI Pharmaceuticals Limited. <https://www.aci-bd.com/assets/files/financial/annual-report/aci-limited-annual-report-2016-2017.pdf>
- [9] Chowdhury, M. A. (2019). 'SPL Annual Report 2018-19'. Square Pharmaceucals Ltd. [https://squarepharma.com.bd/SPL\\_Annual%20Report%202019\\_1.pdf](https://squarepharma.com.bd/SPL_Annual%20Report%202019_1.pdf)
- [10] Dev, P. (2020). 'ANNUAL REPORT 2019'. GlaxoSmithKline Bangladesh. <https://www.gsk.com/media/5925/gsk-annual-report-2019.pdf>
- [11] Dev, P. (2019). 'ANNUAL REPORT 2018'. GlaxoSmithKline Bangladesh. <https://www.gsk.com/media/5401/bangladesh-annual-report-2018.pdf>
- [12] Ferdous, M. & Ishtiaque, A. N. A. (2013). Prospects of E-Commerce in Pharmaceutical Industry of Bangladesh: Lessons from the Case of Drugstore.com. *Journal of Business Studies*.
- [13] Haque, M. & Islam, R. (2013). Effects of Supply Chain Management Practices on Customer Satisfaction: Evidence from Pharmaceutical Industry of Bangladesh. *Global Business and Management Research: An International Journal* Vol. 5, No. 2 & 3.
- [14] Harun, K. I. (2018). 'SPL Annual Report 2017-18'. Square Pharmaceucals Ltd. [https://www.squarepharma.com.bd/Square%20Pharma%20Annual%20Report%202017-18\\_.pdf](https://www.squarepharma.com.bd/Square%20Pharma%20Annual%20Report%202017-18_.pdf)
- [15] Hosen, M. S. (2020). O2O Business Model of Meituan in China. *Global Disclosure of Economics and Business*, 9(1), 49-66. <https://doi.org/10.18034/gdeb.v9i1.508>
- [16] Huq, M. A. (2015). 'ANNUAL REPORT 2014'. GlaxoSmithKline Bangladesh. <https://www.gsk.com/media/3589/bangladesh-annual-report-2014.pdf>
- [17] Hoq, M. R., Ahsan, M. A. & Tabassum, T. A. (2013). 'A Study on SWOT Analysis of Pharmaceutical Industry: The Bangladesh Context'. *Global Disclosure of Economics and Business*, Volume 2, No 2 (2013)
- [18] Islam, M. S. & Khan, M. S. (2019). 'The Determinants of Profitability of the Pharmaceutical Industry of Bangladesh: A Random Effect Analysis'. *International Journal of Financial Research* Vol. 10, No. 2; <https://doi.org/10.5430/ijfr.v10n2p68>
- [19] Islam, M. S. (2021). Online Shopping Behaviour among International Students from Belt & Road Countries in China. *European Journal of Business and Management Research*, Vol 6 (1). <http://dx.doi.org/10.24018/ejbmr.2021.6.1.681>
- [20] Islam, S., Rahman, A. & Al-Mahmood A. K. (2018). Bangladesh Pharmaceutical Industry: Perspective and the Prospects. *Bangladesh Journal of Medical Science* Vol. 17 No. 04 October'18, 519-525. <http://dx.doi.org/10.3329/bjms.v17i4.38306>
- [21] Karim, M. E. (2016). 'Annual Report 2015'. Beacon Pharmaceuticals Limited. <https://www.beaconpharma.com.bd/wp-content/uploads/2016/07/Annual-Report-15.pdf>
- [22] Karim, N. N. (2018). 'Annual Report 2017'. Beacon Pharmaceuticals Limited. <https://www.beaconpharma.com.bd/wp-content/uploads/2018/08/Beacon-Annual-Report-2017.pdf>

- [23] Khan, M. (2018). 'ANNUAL REPORT 2017'. GlaxoSmithKline Bangladesh. <https://www.gsk.com/media/4790/bangladesh-annual-report-2017.pdf>
- [24] Khan, M. (2017). 'ANNUAL REPORT 2016'. GlaxoSmithKline Bangladesh. <https://www.gsk.com/media/3662/bangladesh-annual-report-2016.pdf>
- [25] Khan, M. (2016). 'ANNUAL REPORT 2015'. GlaxoSmithKline Bangladesh. <https://www.gsk.com/media/3592/bangladesh-annual-report-2015.pdf>
- [26] Mainuddin, G. (2015). 'Annual Report 2014'. ACI Pharmaceuticals Limited. [https://www.aci-bd.com/assets/files/annual-report\\_2014-final.pdf](https://www.aci-bd.com/assets/files/annual-report_2014-final.pdf)
- [27] Mainuddin, G. (2016). 'Annual Report 2015'. ACI Pharmaceuticals Limited. <https://www.aci-bd.com/finance/aci/1stQuarter/ACI%20Limited%20-%201st%20Qtr%202015.pdf>
- [28] Mitsumori, Y. (2018). An Analysis of the Impact of TRIPS' Special Exemption for LDCs on the Bangladesh Pharmaceutical Industry. Technology Management for Interconnected World.
- [29] Nath, S. D., Islam, S. & Saha, A. K. (2015). Corporate Board Structure and Firm Performance: The Context of Pharmaceutical Industry in Bangladesh. International Journal of Economics and Finance; Vol. 7, No. 7. <http://dx.doi.org/10.5539/ijef.v7n7p106>
- [30] Sharif, M. A. & Islam, M. R. (2018). 'Working Capital Management a Measurement Tool for Profitability: A Study on Pharmaceutical Industry in Bangladesh'. Journal of Finance and Accounting. 2018; 6(1): 1-10. <https://doi:10.11648/j.jfa.20180601.11>
- [31] Siddiq, A. Q. (2015). 'Annual Report 2014'. Beacon Pharmaceuticals Limited. <https://www.beaconpharma.com.bd/wp-content/uploads/2017/01/Annual-Report-2014.pdf>
- [32] Sultana, M. (2013). Impact of Training in Pharmaceutical Industry: An Assessment on Square Pharmaceuticals Limited, Bangladesh. International Journal of Science and Research (IJSR), Volume 2 (2).
- [33] Sultana, S. (2016). 'Future Prospects and Barriers of Pharmaceutical Industries in Bangladesh'. Bangladesh Pharmaceutical Journal 19(1): 53-57.
- [34] Tazin, F. (2016). 'Pharmaceutical Industry of Bangladesh: Progress and Prospects'. The Millennium University Journal; Vol. 1, No. 1; 2016.
- [35] Rahman, K. T. (2019). 'Annual Report 2018'. ACI Pharmaceuticals Limited. <https://www.aci-bd.com/assets/files/financial/annual-report/annual-report-2018-2019-aci-ltd.pdf>
- [36] Rahman, K. T. (2020). 'Annual Report 2019'. ACI Pharmaceuticals Limited. <https://www.aci-bd.com/assets/files/financial/annual-report/aci-annual-report-2019-2020.pdf>
- [37] Uddin, M. S. A. H. (2020). 'SPL Annual Report 2019-20'. Square PharmaceucalsLtd. <http://www.squarepharma.com.bd/Square%20Pharma%20Annual%20Report%202019-2020.pdf>

#### AUTHORS

**First Author** – Md Saikat Hosen, Master of International Business, College of Management, Capital Normal University, Beijing, China. Email: [hosensaikat@outlook.com](mailto:hosensaikat@outlook.com) / [4192928030@cnu.edu.cn](mailto:4192928030@cnu.edu.cn)

**Second Author** – Md Shohidul Islam, Master of International Business, College of Management, Capital Normal University, Beijing, China. Email: [shohidul5007@outlook.com](mailto:shohidul5007@outlook.com) / [shohidul@cnu.edu.cn](mailto:shohidul@cnu.edu.cn)

**Third Author** – Alam Rafikul, Master of International Business, College of Management, Capital Normal University, Beijing, China. Email: [4192928017@cnu.edu.cn](mailto:4192928017@cnu.edu.cn)

**Correspondence Author** – Md Shohidul Islam, Master of International Business, College of Management, Capital Normal University, Beijing, China. Email: [shohidul5007@outlook.com](mailto:shohidul5007@outlook.com)  
Call Phone: +86 13241985040.