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Assignment Title: Analysis and Data Visualisation of Financial Accounts

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Table of Contents

1. Introduction

The purpose of this report is to do financial performance of the company GlaxoSmithKline plc British multinational pharmaceutical company for the years 2016, 2017, 2018 and 2019 based on financial statements contained within annual reports of the company and yahoo finance data .Financial performance is done on the basis of different Liquidity ratios, Profitability Ratios, Efficiency Ratios and Investment Ratios. According to Forbes as of 2019 It was ranked sixth largest pharmaceutical company.

2. Brief Review of the Company:

GlaxoSmithKline plc is British multinational pharmaceutical company. It is into 3 lines of business Pharmaceuticals, Vaccines and Consumer Healthcare. GlaxoSmithKline plc goal is be the "world's most innovative best performing and trusted healthcare companies" (gsk,2020). GSK culture is based on its values and expectations which makes it great place to work. GSK pharmaceuticals business has wide variety of medicines related respiratory and HIV. R&D focuses on researches basically to improve immune system through usage genetics and advanced technologies.

3. Analysis of Financial Performance:

The purpose of this section is to have close look at financial perspective of GSK by calculating all the financial ratios and analyze the ratios for the year 2016, 2017, 2018 and 2019 with the help of ratios results, by calculating YOY changes for year 2016-2017,2017-2018 and 2018-2019, and visualizing the different ratios and getting perspective about the performance of the company.

1. Liquidity Ratios and Solvency Ratio

Liquidity and Solvency ratios both refer to firm's financial health. Liquidity refers to company's ability to meet its short term commitments hence all the liquidity ratios are short term in nature. Solvency ratio refers to company's ability to meet long term commitment and hence solvency ratios are long term in nature.

1. Liquidity Ratio:

Liquidity ratio indicates to company's cash flow condition. Excess and insufficient liquidity both are not good for the organization. If company is not able meet its short term commitment due to its stakeholders there might be chances that company can go bankrupt or close. Below are the different liquidity ratios. (Chandra 2011, page 71)

1.1.1. Current Ratio

Current Ratio is one of the primary ratio of liquidity ratio and is calculated as fallows

Current Ratio=Current Assets/Current Liabilities

Current ratio indicates company's ability to pay its short term liabilities/commitments. Current liabilities can be Accounts payables, short term barrowing, tax payables etc. which can be paid by current assets like current receivables, inventories, cash and cash equivalents, assets held for sale and other current assets.

The ideal ratio of current asset is 2:1 which means company have enough cash flow to pay its short term liabilities (Brigham and Houston 2012, page 136).

The calculation of current ratios for 4 different financial years of GSK are as fallows

	2016	2017	2018	2019
Current Assets/Current Liabilities	£16711/£19001 0.88:1	£15907/£26569 0.60:1	£16927/£22491 0.75:1	£19491/£24050 0.81:1

The current ratios are fluctuating over the year as seen in above table. Year-over-year change are as -31.02%, 25.00%, 8.00% respectively for 2016-17, 2017-18 and 2018-2019. The increase in ratio is considered to be good as it will lead to increase in liquidity of company meaning higher cash flow. Change % for YOY for 2017-18 and 2018-2019 are good.

1.1.2. Quick Ratio:

Quick ratio which is also called as Acid ratio is second most widely used liquidity ratio and it is calculated as follows:

Quick Ratio=Current Assets- Inventory/Current Liabilities

Inventory of any firm cannot be considered while taking into account its ability to pay current liabilities as inventory cannot be converted to cash to meet any short term commitments. Hence quick ratio deducts inventories from its current asset (Brigham and Houston 2012, page 137).

Ratio greater than 1 is considered to be good value. The calculation of quick ratios for 4 different financial years of GSK are as fallows

2016	2017	2018	2019
£16711-£5102/£19001 0.61:1	£15907-£5557/£26569 0.39:1	£16927-£5476/£22491 0.51:1	£19491-£5947/£24050 0.56:1

For all the years quick ratio is less than 1 which is not a very good value that is the reason we have huge trade and other (account) payables than Trade and other (account) receivables. Year-over-year changes are as -36.07%, 30.77% and 9.80% respectively for 2016-17, 2017-18 and 2018-2019. Company increased its quick ratio for 2018 and 2019 which is a good sign.

2. Solvency Ratio:

Solvency ratios is also referred as leverage ratios is a measure company's ability to pay off its long term debts or barrowings. So solvency ratio plays a major role in depicting company's sustainable operations. It is calculated by comparing its long term debt or barrowings with long term assets, equity and revenue. In other words solvency ratio identifies the problem which affects the company inability to pay its long term debts.

2.1. ***Gearing Ratio***

Gearing ratio is one of the important solvency ratio .It is also called debt to equity ratio. Gearing ratio compares company's debt to equity or capital. The gearing ratio is a measure of financial leverage indicates extent to which the operations of a company are funded by equity versus financing provided by debt.

Gearing ratio greater than 50 percent is called extremely levered or geared. As a result, the company would be at higher financial risk, because during times when company makes lower profits and it has to pay higher interest rates, the company would be more prone to default loans.

Gearing Ratio=Debt/ Debt + Equity

Gearing Ratio			
2016	2017	2018	2019
£14,661/£19,624 74.71%	£14,264/£17,753 80.35%	£20,271/£23,943 84.66%	£23,590/£41,947 56.24%

Above table values show higher gearing % for 2016, 2017 and 2018 ,for those years finance has been predominantly funded from compared to its equity. However gearing % value has reduced for 2019 which indicates comparatively less debts.

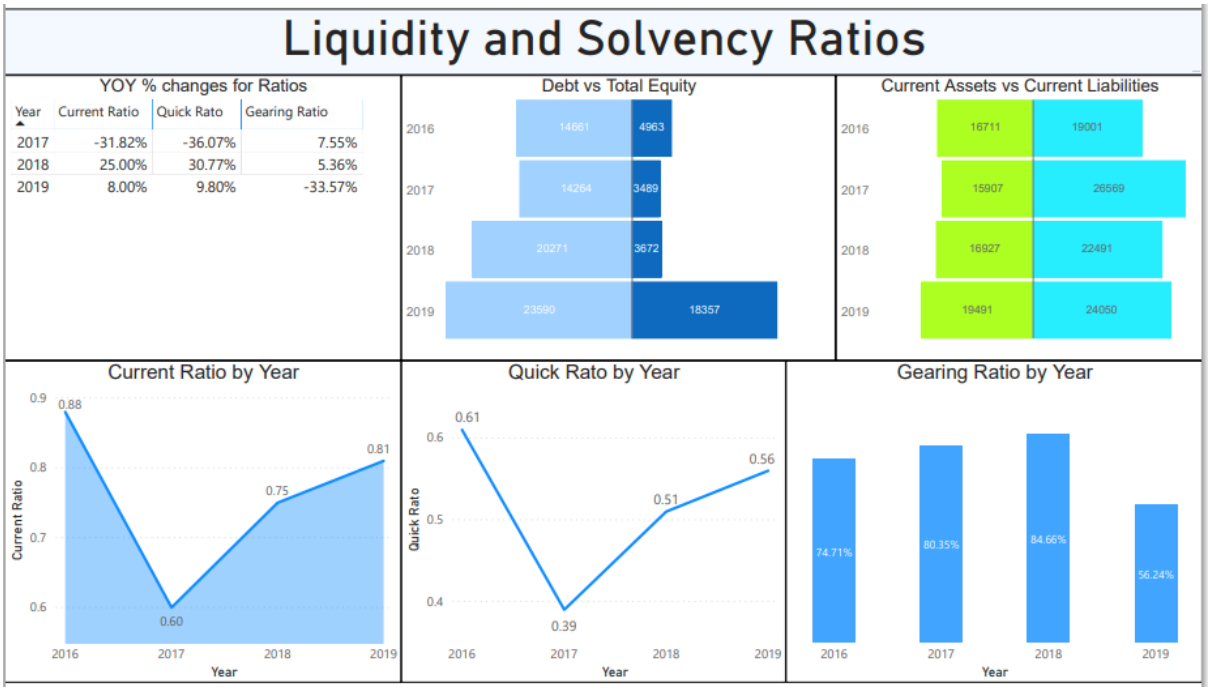

Figure 1. Visualization of Liquidity and Solvency Ratios

2. Profitability Ratios

Profitability ratios assess firm's ability to generate profit. The ratios are calculated by comparing its Gross Profit, Net Profit to sales, total assets .These ratios show ability of a firm to generate profit and value for shareholders from its assets.

Higher profitability ratios are always favorable. The higher values generated compared to prior years or compared to its competitors are always good.

1. Gross Margin

Gross Margin ratio indicates company ability to generate gross profit by its sales. higher the value better the ratio.

Formula is Gross Margin=Gross Profit/Sales

Gross Margin			
2016	2017	2018	2019
£18,599/£27,889 66.69%	£19,844/£30,186 65.74%	£20,580/£30,821 66.77%	£21,891/£33,754 64.85%

The values above shows fluctuation over the years. Year-over-year changes are as -1.42%,1.57% -2.88% respectively for 2016-17, 2017-18 and 2018-2019. Gross margin values are good year 2016 and 2018 comparatively.

2. Net Margin

Net margin is percentage of revenue after deducting all taxes, interest from a company's total revenue.

Higher the values better the ratio. The formula is Net Margin=Net Profit before Tax/Sales

Net Margin			
2016	2017	2018	2019
£2,598/£27,889 9.32%	£4,087/£30,186 13.54%	£5,483/£30,821 17.79%	£6,961/£33,754 20.62%

Net margin values have increased every year which is good sign. Year-over-year changes are as **45.28%, 31.39%, 15.91%** respectively for 2016-17, 2017-18 and 2018-2019.

3. Sales-to-Assets

Sales to asset ratio indicate company efficiency in terms of generating revenue by managing its assets. Higher the values better the ratio. Higher values indicates company has managed generate more revenue by investing minimal assets.

Formula : Sales-to-Assets=Sales/Total Assets

Sales-to-Assets			
2016	2017	2018	2019
£27,889/£59,081 47%	£30,186/£56,381 54%	£30,821/£58,066 53%	£33,754/£79,692 42%

Sales to assets for year 2017 and 2018 are better than other two year. Year-over-year changes are 13.42% ,-0.86%,-20.20% respectively for 2016-17, 2017-18 and 2018-2019. YOY value 2016 to 2017 value is increasing which shows company made good revenue with minimal asset investment.

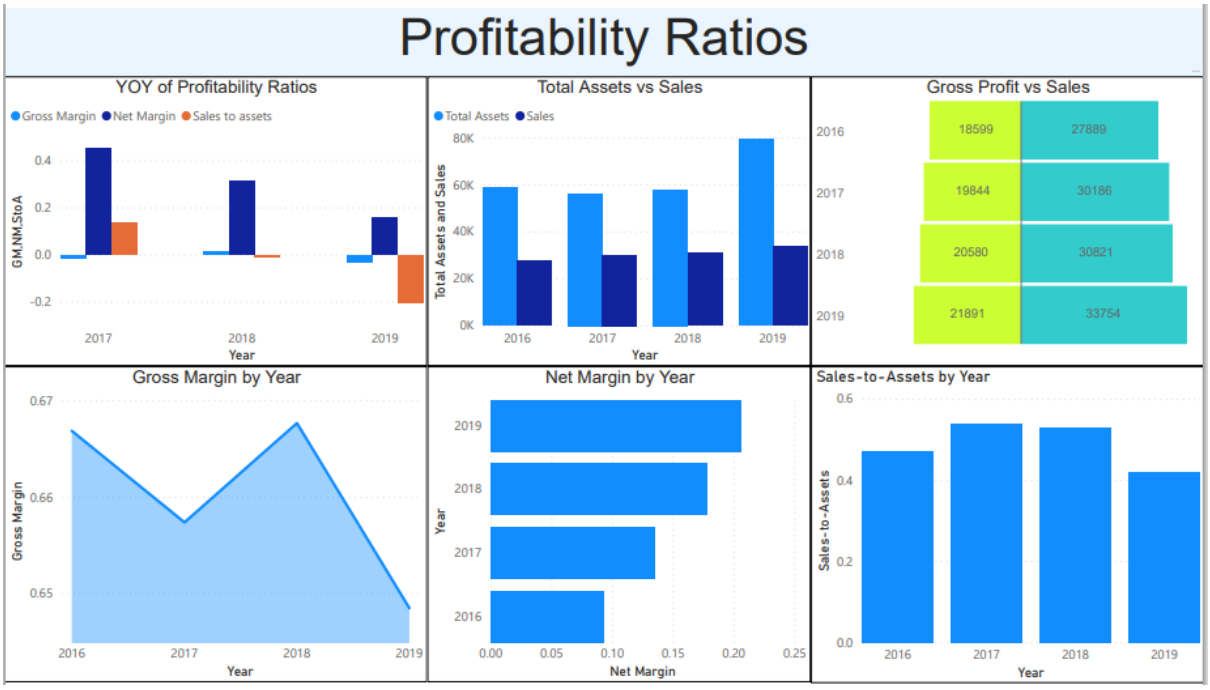

Figure 2: Visualization of Profitability Ratios

3. Efficiency Ratios

Efficiency ratios indicate firm's capability to utilise its assets to manage its short term liabilities efficiently.

1. Inventory Turnover

Inventory turnover ratio represents company's capability to manage its inventory and provides inside into sales. If the inventory turnover is too small indicate excess inventory stock which means company is not able to make much sales. Whereas higher ratio suggest inventory is not sufficient to meet the sales. (Brigham and Houston 2012, page 8).

Inventory Turnover=Cost of Goods Sold/Inventory

Inventory Turnover			
2016	2017	2018	2019
£9,290/£5,102 1.82 times	£10,342/£5,557 1.86 times	£10,241/£5,476 1.87 times	£11,863/£5,947 1.99 times

Inventory Turnover ratios for all the years is good. Cost of sales is higher which indicate good sales number. Year-over-year changes are **2.20%, 0.54%, 6.42%** respectively for 2016-17, 2017-18 and 2018-2019. All the values show increase which is a good sign.

2. Inventory Days

Inventory days indicate the number of days a firm takes to convert its inventory to sales including the ones which are in production or in progress of manufacture. The lesser or lower inventory days are better .It indicate company took less time converting its inventory to sales. Formula is as below
Inventory Days= 365/Inventory Turnover

Inventory Days			
2016	2017	2018	2019
365/1.82 200.5 days	365/1.86 196.1 days	365/1.87 195.2 days	365/1.99 183 days

The above values for inventory shows higher values which is not good however for 2019 the number of inventory days reduced which is a good sign.

3. Accounts Receivable Days

Account receivables refer to the outstanding invoices of the company and account receivable days refers to number of days client or buyer takes to make the payment for the services taken or goods purchased.

The smaller the ratios better the value. Formula is

Accounts Receivable Days=Accounts Receivable x 365/Sales

Accounts Receivable Days			
2016	2017	2018	2019
£6026*365/£27,889 78.87 days	£6000*365/£30,186 72.55 days	£6420*365/£30,821 76.06 days	£7202*365/£33,754 77.88 days

The above all account receivable values are higher which means it takes longer time for a company to receive its outstanding amount which is not a good sign. The year-over –year ratio are-8.01%, 4.84%,2.39% respectively for 2016-2017,2017-2018 and 2018-2019

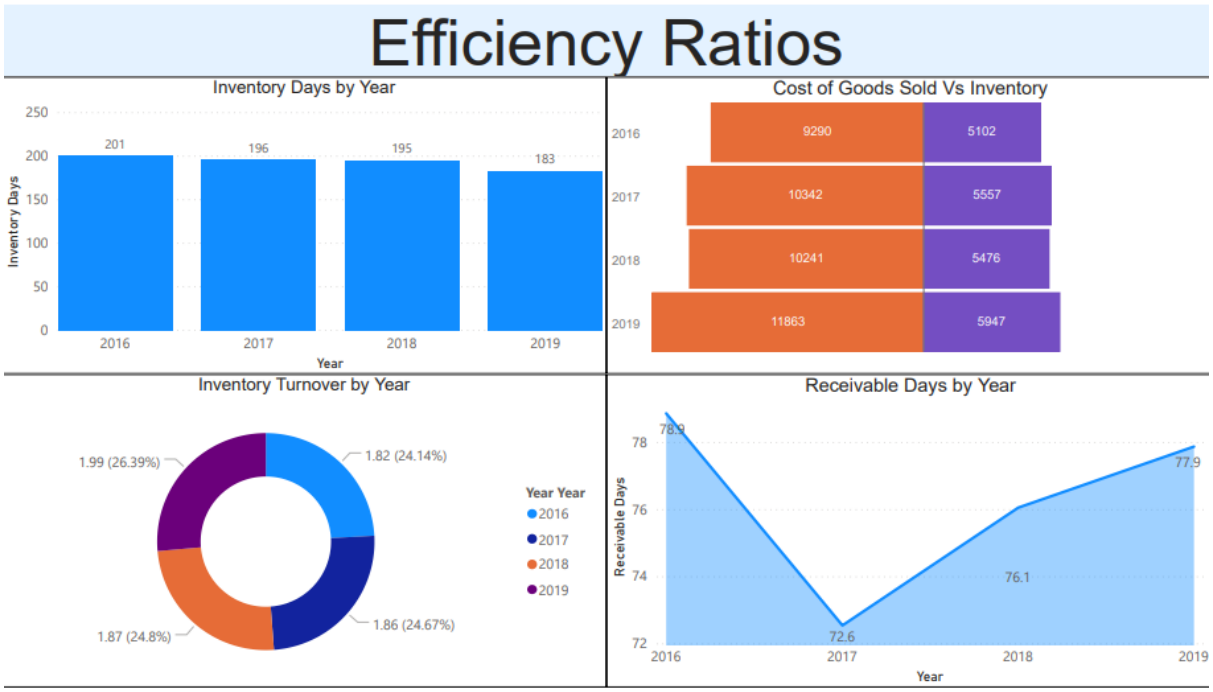

Figure 3: Visualisation of Efficiency Ratios

4. Investment Ratios

Investment ratios access how attractive a company in terms of investment not only for ordinary shareholders but also for potential investors.

1. Earnings Per Share

An Earnings per share is the ratio which indicates net income per each ordinary share. Earnings per share show how much a company earns for each of its share, it is one of the important factor to measure company profit.

Formula: Earnings Per Share= (Net Profit allocated to shareholders/Number Shares in Issue) *100

(Note: multiplying by 100 to convert pence to pound)

Earnings Per Share			
2016	2017	2018	2019
(£912 /4860)*100 £18.77	(£1,532 /4886)*100 £31.35	(£3,623/4,914)*100 £73.73	(£4,645 /4947)*100 £93.90

If we look at the above table we can see earning per share value increasing for every year from 2016 to 2019 which is very good sign in terms of company net profit for each ordinary share. Year-over-year values are 67.02%, 135.18%, 27.36% for respectively 2016-2017, 2017-2018 and 2018-2019.there is increase in YOY value for every year which indicates company attractiveness in terms of investment.

2. Return on Equity

Return on equity indicates how efficiently company is using its assets to make profit. Return on equity profit generated by contributed amount from shareholders.

Higher the ratios better the value. It is calculated by following formula

Return on Equity=Profit before Tax/Share Capital + Retained Earnings

Return on Equity			
2016	2017	2018	2019
£2,598 /£1,342+£5,392 38.58%	£4,087 /£1,343+£6,477 52.26%	£5,483/£1,345+£2,716 135.02%	£6,961/£1,346+£4,530 118.46%

We can see increase in return on equity every year from 2016 to 2019.Year-over-year values are 35.46%, 158.36%,-12.26% for respectively 2016-2017, 2017-2018 and 2018-2019. 2017 to 2018 increase seems significant in terms of return gained.

3. Return on Capital Employed

Return on capital employed ratio indicated efficiency of a company to generate profit from its capital.

Higher the values better the ratio.

Formula: Return on Capital Employed=Profit before Interest and Tax/Capital Employed

Return on Capital Employed			
2016	2017	2018	2019
£2,598/£40,080 6.48%	£4,087/£29,812 13.71%	£5,483/£35,575 15.41%	£6,961/ £55,642 12.51%

Return on capital for year 2018 is higher compare to all the years. Year-over-year values are 111.57%, 12.40%,-18.82% for respectively 2016-2017, 2017-2018 and 2018-2019. YOY for year 2016-2017 is very significant in terms of return generated.

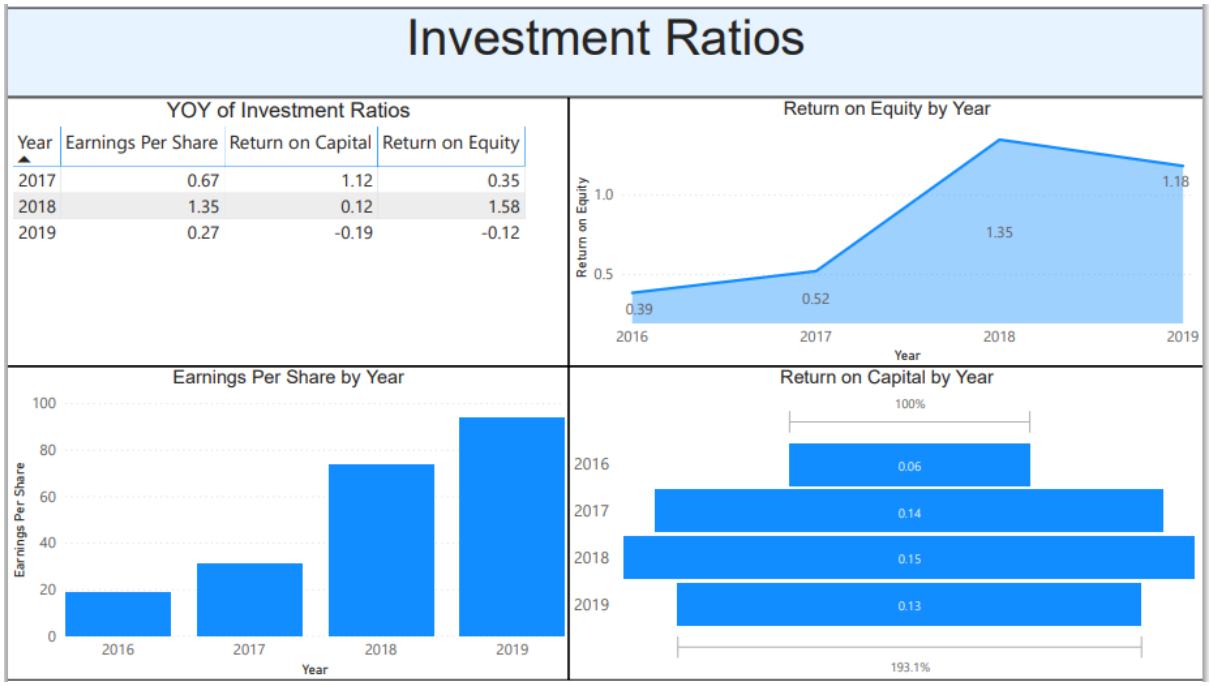

Figure 4 : Visualization of Investment Ratios

4. Conclusion

Considering all the financial ratios for the year 2016,2017, 2018 and 2019 GlaxoSmithKline plc is improving in terms of liquidity and Solvency as current ratio, quick ratio and gearing % ending on high note for 2019. Gearing percentage made tremendous improvement for year 2019 which means its debts have decreased and company has enough equity. In terms of profitability both gross and net margin made improvement by the end of year 2019 however sales to asset ratio is alarming this means company using lot of asset to make profit. In terms of efficiency ratios Inventory turnover and inventory days improved by the end of Dec 2019 however account receivables slightly increased for 2019 which means client or buyer is taking more time to make his payments but it is necessary to keep the clients. In terms of Investment ratio Company is doing pretty well as earning per share increased drastically over the year and even return on equity and capital also saw good improvement over the year which means company is attractive in terms of investment. So company can make profit because investors are finding the company trustworthy to invest. Overall company doing good as its cash flow has increased and Investors are ready to make investment.

5. References

Brigham, E.F. and Houston, J.F., 2012. *Fundamentals of financial management*. Cengage Learning.

Chandra, P., 2011. *Financial management*. Tata McGraw-Hill Education.

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