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DuPont Analysis of Return on Common Stockholder's Equity in Pharmaceutical Industry of Bangladesh

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Keywords: pharmaceutical companies, asset turnover ratio, DuPont Analysis, equity multiplier, EBIT.

GJMBR-C Classification: JEL Code: G10, G11, G23

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Strictly as per the compliance and regulations of:

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I. Introduction

Performance evaluation of a company is usually related to how well a company can use its assets and how well a company can generate profit by utilizing its assets. Du Pont analysis is one of the important tools for performance evaluation of any company. For determining the financial position of a company and to know how well the company performs its activities as well as the profitability and asset utilizing capacity of the company Du Pont analysis plays an important role.

Du Pont analysis easily measures return of equity related to the company for performance evaluation. It analyzes the company's profitability and asset utilization. It measures overall performance and efficiency of a company. This method used to analyze companies past financial performance and it also predict future trend of financial position.

Ten pharmaceutical companies in Bangladesh are selected for this purpose. The historical backgrounds of these companies are given below.

a) Background

Square Pharmaceuticals Ltd., the flagship company, is holding the strong leadership position in the pharmaceutical industry of Bangladesh since 1985 and is now on its way to becoming a high performance global player. From the inception in 1958, it has today burgeoned into one of the top line conglomerates in Bangladesh. SQUARE Pharmaceuticals Limited is the largest pharmaceutical company in Bangladesh and it has been continuously in the 1st position among all national and multinational companies since 1985. It was established in 1958, converted into a public limited company in 1991 and listed with stock exchanges in 1995. The turnover of Square Pharma was Taka 30.28 Billion (US$ 385.22 million) with about 18.64% market share having a growth rate of about 25.36% (April 2014–March 2015). (As cited at http://www.squarepharma.com.bd/about-us.php)

Beximco Pharmaceuticals Ltd (Beximco Pharma) is a leading manufacturer and exporter of medicines in Bangladesh. Incorporated in the late 70s, Beximco Pharma began as a distributor, importing products from global MNCs like Bayer, Germany and Upjohn, USA and selling them in the local market, which were later manufactured and distributed under licensing arrangement. Since then, the journey continued, and today, Beximco Pharma is one of the largest exporters of medicines in Bangladesh, winning National Export Trophy (Gold) a record five times. The company continues to adhere to the global standards and its manufacturing facilities have been already certified by the regulatory authorities of USA, Europe, Australia, Canada, Latin America and South Africa. Over the last three decades Beximco Pharma has grown from strength to strength but the simple principle on which it was founded remains the same: producing high quality generics and making them affordable. Ensuring access to quality medicines is the powerful aspiration that motivates more than 3,000 employees of the company, and each of them is guided by the same moral and

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social responsibilities the company values most. (As cited at http://www.beximcopharma.com/about.html)

ACI was established as the subsidiary of Imperial Chemical Industries (ICI) in the then East Pakistan in 1968. After independence the company has been incorporated in Bangladesh on the 24th of January 1973 as ICI Bangladesh Manufacturers Limited and also as Public Limited Company. This Company also obtained listing with Dhaka Stock Exchange on 28 December, 1976 and its first trading of shares took place on 9 March, 1994. Later on 5 May, 1992, ICI plc divested 70% of its shareholding to local management. Subsequently the company was registered in the name of Advanced Chemical Industries Limited. Listing with Chittagong Stock Exchange was made on 22 October 1995.Advanced Chemical Industries (ACI) Limited is one of the leading conglomerates in Bangladesh, with a multinational heritage. The company has diversified into four major Strategic Business Units. (As cited athttp://www.aci-bd.com/corporate.php)

Renata Limited (formerly Pfizer Limited) is one of the leading and fastest growing pharmaceutical and animal health product companies in Bangladesh. The company started its operations in 1972 as Pfizer (Bangladesh) Limited. In 1993, Pfizer transferred the ownership of its Bangladesh operations to local shareholders and the name of the company was changed to Renata Limited. The core businesses of Renata Limited are human pharmaceuticals and animal health products. In Bangladesh it is the 4th largest pharmaceutical company and the market leader in animal health products. In addition, Renata products are exported to Afghanistan, Belize, Cambodia, Ethiopia, Guyana, Honduras, Hong Kong, Kenya, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, United Kingdom, and Vietnam. The Company is listed on the Dhaka Stock Exchange with market capitalization of approximately Taka 50 billion. The Company has eight manufacturing facilities spread over three manufacturing sites. In addition Renata Oncology Limited has two manufacturing facilities. Distribution of products is carried out by 19 depots across the country. Renata employs 4,334 people. (As cited at http://renata-ltd.com/about-us/)

GlaxoSmithKline - one of the world's leading research-based pharmaceutical and healthcare companies of Bangladesh- is committed to improving the quality of human life by enabling people to do more, feel better and live longer. GlaxoSmithKline plc (GSK), incorporated on December 6, 1999, is a healthcare company. The Company is engaged in the creation and discovery, development, manufacture and marketing of pharmaceutical products, including vaccines, over-the-counter (OTC) medicines and health-related consumer products. GSK's principal pharmaceutical products include medicines in various therapeutic areas, such as respiratory, anti-virals, central nervous system, cardiovascular and urogenital, metabolic, anti-bacterials, dermatology, rare diseases, immuno-inflammation, vaccines and human immunodeficiency virus (HIV). The Company's segments include Pharmaceuticals, Pharmaceuticals R&D, Vaccines and Consumer Healthcare. (As cited at http://www.gsk.com/en-gb/contact-us/worldwide/bangladesh/)

The IBN SINA Pharmaceutical Industry Ltd. (IPI) is leading pharmaceutical company in Bangladesh. The company was founded in the year 1983. The manufacturing facilities located at Gazipur, 56 Kilometer away from the center of the capital city Dhaka, in a campus of about 15 acres of land. The manufacturing plant has been established with modern state of the art technology and equipped with high standard machineries for the production and quality checking of various dosage form of several therapeutic classes. (As cited at http://bd.kompass.com/c/ibn-sina-pharmaceutical-industry-ltd/bd00199/)

ACI formulation Limited (ACI FL) is a subsidiary of ACI limited, located at Gazipur in the out skirt of Dhaka. ACI FL manufactures majority of the products of ACI Strategic Business Limited except for the Pharmaceutical Division. The factory is equipped with the state of the art facilities for product formulations and process innovation. These include modern computerized equipment like HPLC and GLC. The product range manufactured at ACI FL include Crop Protection Chemicals like Insecticides, herbicides and fungicides in granular, powder and liquid, mosquito pesticides in the forms of aerosols, vaporizers and coils house hold chemicals like toilet cleaners and hand wash. (As cited at https://www.aci-bd.com/subsidiaries.php)

Since 1983 FAR Chemical's headquarters, development labs and production facility have been located in Palm Bay, Florida. FAR Chemical produces pharmaceutical reagents and intermediates. A variety of organic catalysts are synthesized for polymer manufacturers. Cyanate ester pre-polymers are supplied to the structural composite industry. FAR Chemical furnishes the electronics market with materials used as strippers, etchants, polishing compounds and additives for high density data transmission wires. (As cited as https://www.linkedin.com/company/far-research-inc.-dba-far-chemical-inc.)

Orion Pharma a member of Orion Group was founded as a pharmaceutical manufacturing company in 1965. With the mission to serve the ailing humanity around the globe orion pharma started its operation nearly four decades ago, and after a great run of success the company today has proliferated out into one of the leading pharmaceutical companies in Bangladesh. It has already established itself to the doctor's community, other health care professionals, chemists and patients as a provider of quality medicines and health care services through 50 brands and 51 presentations of various formulations. With the mission to serve the ailing humanity around the globe, Orion Pharma has proliferated into one of the leading pharmaceutical companies in Bangladesh manufacturing and marketing general drugs. Orion Pharma manufactures and markets a wide array of dosage forms including tablet, capsule, syrup, suspension, injection, dry powder for syrup/suspension, cream/ointments in different therapeutic groups like anticancer, antibiotics, anti-diabetics, anxiolytics, diuretics, cardiovascular drugs etc. (As cited at http://www.orion-group.net/concern/19/40/orion-pharma-ltd)

Beacon Pharmaceuticals Limited is the number one oncology company and one of the leading and fastest growing pharmaceutical companies of Bangladesh. The Company started its operation in 2006. Now Beacon is one of the top oncology pharmaceutical companies of Bangladesh. Manufacturing plant of Beacon has the finest infrastructure & facilities developed and engineered by European consultants to conform world class standards like US FDA, UK MHRA, TGA Australia and WHO GMP. Beacon has dedicated facilities to manufacture lifesaving oncology, Biotech and Hi-Tech & conventional general products. The company manufactures more than 200 world class generic drugs and even successfully introduced a global first generic drug. After meeting the local demand, Beacon exports its medicines to many countries of Asia, Africa, Europe and Latin America. (As cited at https://www.beaconpharma.com.bd/)

b) Purpose and Research Questions

The purpose of this study is a performance evaluation of ten pharmaceutical companies in Bangladesh through measuring ROCE by Du Pont analysis. The study analyzes the financial conditions of selected ten pharmaceutical companies in Bangladesh.

c) Research Questions

- What is the condition of the company related to tax burden?
- What is the condition of the company related to interest burden?
- What is the condition of the company related to EBIT margin?
- What is the condition of the company related to asset turnover?
- What is the condition of the company related to equity multiplier/financial leverage?
- Which company has the best performance among the selected pharmaceutical companies?

d) Limitations of Study

There are some limitations of the Study. Du Pont analysis is used for performance evaluation of pharmaceutical companies. When conducting the research some problems have been faced. For evaluating performance have to choose a method that is appropriate. However data should be correct, otherwise calculation may be baffling. Sometimes the items to analyze could not find appropriately as a result there may have some lacking in comparing among those companies.

There are some drawbacks of Du Pont decomposition also. Such as-

1. The DuPont identity is an accounting identity. The model relies on accounting data, which can be altered by companies to hide short-term weaknesses (even though this is unethical).
2. DuPont decomposition does not include the cost of capital.
3. How much increase of debt will determine the negative or positive return to shareholders is not recognized by this disaggregation.

II. Literature Review

Gopinathan Thachappilly (2009), he states in this article about different types of financial ratios for measuring performance. It helps the investor to decide whether he should invest in the company or not. The article is used to evaluate performance of a company through different types of ratios such as performance ratio, liquidity ratio, profitability ratio etc.

Penman (2001), he states that increasing leverage can increase ROE of a company but if the discount rate is increased there will occur no change in the value of the equity.

Liesz (1999), he states that determining the reason of failure of small firms is troublesome. Du Pont analysis can be used in this regard to evaluate the performance of the company and also dictating the reason of failure. In this case asset turnover, profit margin, financial leverage etc. are considered. These factors show that poor planning and controlling are the reasons of failure.

Soliman (2007), he states that increase in asset turnover ratio indicates that the firm is generating revenue increasingly by utilizing its assets and this indicates the efficiency of the company.

Collins (2010), this article states the Du Pont model to calculate optimal debt of the company which helps to choose between equity or leverage structure of the company.

James Clausen (2009), this article states about evaluating profit performance of a company through profitability ratio analysis. The income statement and balance sheet are used to evaluate performance through ratio analysis. Income statement and balance sheet shows profitability and net financial condition of the company. This article shows how the profit is generating within the company and how the assets are utilized to generate revenue. He states that Income statement shows the profitability of the company and balance sheet shows the net value of the assets and liabilities.

Maria Zain (2008), this article states that the return on asset is an important indicator to dictate how well the assets are used to generate revenue. The higher return on asset indicates the company is utilizing its assets appropriately whereas the lower percentage indicates asset utilization of the company is not good enough to generate revenue. Return on asset is calculated by dividing the net profit by total assets. He also states that profit margin ratio which is derived by dividing the net profit by net sales. Profit margin ratio also called operating performance ratio.

Jo Nelgadde (2010), he states about asset management ratio. The accounts receivable and working capital figures are used to determine company's performance.

Lucia Jenkins (2009), he states that the fixed cost and variable cost are the important financial item to know the financial performance of the company. Fixed costs are those costs which are remain unchanged and are always same regardless of how much items are sold. On the other hand, variable costs are subject to change in terms of sales and other related factors. Examples of fixed costs include salary, rent, advertisement, depreciation, insurance etc. and examples of variable costs include direct labor, direct material, commission, shipping costs etc.

Herciuetal(2011), he states that it can be often found that the most profitable companies may not always be the most attractive company in the eye of an investor. The components of Du Pont model such as profit margin, asset turnover, equity multiplier etc. are used to realize the fact.

Boyd et al.(2007),this article tells that there is no significance between size of the asset and profitability of the company for dropping return of equity and the profitability, liquidity and solvency of a company can be managed.

Vintila, Gheoghe, Pocan and Anghel (12), this article states about the key items that directly or indirectly affect the performance and profitability of a company. Du Pont analysis is an important method to recognize profitability of a company.

CameliaBurja(2) states, profitability is the form of operating efficiency that includes economic and financial aspects of a company that helps to make appropriate decisions.

Kalluci (2011), he dictates that the volatility of profit margin and financial leverage can be the reason of changing ROE of a company. The increase of those components can make the ROE higher as well as the decrease of those components can be the reason of lower ROE of a company.

III. Methodology

The methodology chapter represents how the data should be collected, analyzed and used for the purpose of the thesis. It also describes about the Du Pont decomposition and the formula for measuring ROCE. Quantitative approach is used for the thesis as majority of data is collected from the quantitative approach.

a) Data Collection

The data of this paper is mainly collected from the annual financial reports of Beximco, Square, Renata, GlaxoSmithKline, Orion, Far chemicals, ACI, Beacon, ACI Formulations, IBNSINA pharmaceutical company from 2011 to 2015. When measuring the ratio analysis for any company, annual financial reports must be used. Two main financial statements of annual reports have been used for Du Pont analysis of pharmaceutical company such as; balance sheet and income statement.

b) Data Analysis

Du Pont analysis model is used in this regard for performance evaluation of pharmaceutical company. It indicates the different steps such as Identifying balance sheet and income statement and by using Du Pont analysis comparison among companies and declaring the best one among those companies.

First step, make a choice of annual financial report. The annual financial report presents a company's financial position, operating performance, capital structure, and cash flow for an accounting period. Annual reports of selected pharmaceutical companies from 2011 to 2015 are used for measuring ROE of a company.

Second step, balance sheet and income statement are identified from the annual financial report. Some data are used from balance sheet and income statement for analysis of different types of ratios such as asset turnover ratios, Equity margin, EBIT margin etc. Analysis of profitability includes income statement of those companies.

Third step, identification of suitable ratio for performance evaluation and the ratios include asset turnover ratio, profitability ratio, financial leverage ratio etc. These ratios are very important to know how well a company generates its assets, revenue, expenses and profit or loss etc.

Forth step, some figures are used from income statement and balance sheet of those companies for performing Du Pont analysis. Scientific calculator is used for determining the result.

Fifth step, Using the result of Du Pont analysis such as EBIT margin, asset turnover and profitability compare among selected pharmaceutical companies and identify why one company is better than other companies and also discuss why some companies are not in good position comparing with others.

Finally declaration of the best one among those pharmaceutical companies by using different kinds of ratios under Du Pont analysis and by knowing the result can easily compare of those companies.

c) The DuPont Ratio Decomposition

Du Pont analysis is a model that is used to assess the factors that affects a company's financial performance. Donaldson Brown is the first who thought about Du Pont analysis around the period of 1920s. First time it is applied for general motors.

Du Pont analysis is very important as it calculates ROE which is an important key ratio which indicates the rate at which owner's wealth is increasing.

There are two way of Du Pont decomposition that includes three way decomposition and five way decomposition. Three way decomposition covers the areas of net profit margin, asset turnover and financial leverage. The meaning of each of these components is described below.

d) Three-Step DuPont Model

The three-step DuPont model is calculated as follows:

ROE = Net profit margin × asset turnover × equity multiplier

Where:

Net profit margin = net income/sales; Asset turnover = sales/average total assets; and Equity multiplier or financial leverage = average total assets/average common stock equity.

The three-step Du Pont model captures management's effectiveness at generating profits (net profit margin), managing assets (asset turnover) and identifying an optimal amount of leverage (equity multiplier).

e) Five step Du Pont model

The three-step DuPont Model has some drawbacks. It provides us with insights that drives a company's return on equity. In three step Du Pont model a company can boost its ROE by improving its profitability, by using assets more efficiently, or by taking additional leverage. However, companies that boost ROE by taking additional leverage may eventually reach a point where the cost of debt will diminish profit margin and decrease asset turnover.

This "shortcoming" with the three-step model led to the development of an expanded, five-step model of Du Pont analysis, the extended model considers company's interest burden and also tax burden.

The extended five-step Du Pont decomposition breaks return on equity down into five components:

- Tax burden = net income/earnings before tax (EBT);
- Interest burden=Earnings before tax (EBT)/Earnings before interest and tax (EBIT);
- EBIT margin=Earnings before interest and tax (EBIT)/sales;
- Asset turnover=EBIT margin/average total assets; and
- Financial leverage ratio (equity multiplier) = average total assets/average common stock equity.

Multiplying all five ratios together gives return on equity.

IV. Results and Analysis

The average of five years results of five ways Du Pont analysis of ten selected pharmaceutical companies is summarized below:

Name of the Companies	Tax Burden	Interest Burden	EBIT Margin	Asset Turnover	Financial Leverage	ROCE
Square	0.75	1.07	0.21	0.89	1.26	0.19
Renata	0.73	0.82	0.26	0.78	1.90	0.23
GlaxoSmithKline	0.77	0.94	0.29	0.59	7.65	0.92
ACI	0.76	0.83	0.12	0.75	0.31	0.27
IBNSINA	0.76	0.98	0.05	1.98	1.70	0.13
ORION	0.83	1.05	0.27	1.00	2.38	0.56
ACI Formulations	0.74	0.74	0.11	0.77	1.74	0.08
Far chemicals	1.00	1.03	0.25	0.70	1.07	0.20
Beacon	0.69	0.25	0.23	0.30	1.6	0.019
Beximco	0.73	0.86	0.23	0.38	1.37	0.07

Square pharmaceutical has tax burden of 0.75 and interest burden of 1.07.Whereas it has EBIT margin of 0.21.The asset turnover ratio of this company is 0.89 and it has financial leverage of 1.26.The average ROCE of this company is 0.19.

Renata pharmaceutical has tax burden of 0.73 and interest burden of 0.82.Whereas it has EBIT margin of 0.26.The asset turnover ratio of this company is 0.78 and it has financial leverage of 1.90.The average ROCE of this company is 0.23.

GlaxoSmithKline has tax burden of 0.77 and interest burden of 0.94.Whereas it has EBIT margin of 0.29.The asset turnover ratio of this company is 0.59 and it has financial leverage of 7.65.The average ROCE of this company is 0.92.

ACI has tax burden of 0.76 and interest burden of 0.83.Whereas it has EBIT margin of 0.12.The asset turnover ratio of this company is 0.75 and it has financial leverage of 2.31.The average ROCE of this company is 0.27.

IBNSINA has tax burden of 0.76 and interest burden of 0.98.Whereas it has EBIT margin of 0.05.The asset turnover ratio of this company is 1.98 and it has financial leverage of 1.70.The average ROCE of this company is 0.13.

ORION has tax burden of 0.83 and interest burden of 1.05.Whereas it has EBIT margin of 0.27.The asset turnover ratio of this company is 1.00 and it has financial leverage of 2.38.The average ROCE of this company is 0.56.

ACI Formulations has tax burden of 0.74 and interest burden of 0.74.Whereas it has EBIT margin of 0.11.The asset turnover ratio of this company is 0.77 and it has financial leverage of 1.74.The average ROCE of this company is 0.08.

Far chemicals has tax burden of 1.00 and interest burden of 1.03.Whereas it has EBIT margin of 0.25.The asset turnover ratio of this company is 0.70 and it has financial leverage of 1.07.The average ROCE of this company is 0.20.

Beacon has tax burden of 0.69 and interest burden of 0.25.Whereas it has EBIT margin of 0.23.The asset turnover ratio of this company is 0.30 and it has financial leverage of 1.6.The average ROCE of this company is 0.019.

Beximco has tax burden of 0.73 and interest burden of 0.86.Whereas it has EBIT margin of 0.23.The asset turnover ratio of this company is 0.38 and it has financial leverage of 1.37.The average ROCE of this company is 0.07.

As ROCE, EBIT margin, Financial leverage of GlaxoSmithKline pharmaceutical company is good enough comparing with other pharmaceutical companies and its tax burden, interest burden and asset turnover are also comparatively good than other pharmaceutical companies then it can be evolved that GlaxoSmithKline pharmaceutical company has the best performance than the other pharmaceutical companies.

V. Conclusion

This paper is based on six main research questions. First of all, analyze the tax burden condition for ten companies. Tax burden ratio indicates the Beacon pharmaceutical company is better than other pharmaceutical companies as it has lowest tax burden. Secondly, analyze the interest burden condition of selected pharmaceutical companies. The Beacon Pharmaceutical Company is in better position in this case also as it has lowest interest burden compared that with other pharmaceutical companies. Thirdly, analyze the EBIT margin. The GlaxoSmithKline pharmaceutical Company is better in this case as it has highest EBIT margin comparing with other pharmaceutical companies. Fourthly, analyze the asset turnover ratio which indicates IBNSINA pharmaceutical company is in good condition than other pharmaceutical companies as it has highest asset turnover ratio. At Fifth stage, financial leverage/equity multiplier measure indicates that GlaxoSmithKline pharmaceutical company is in good position in this case as it has employed highest amount of leverage in investment of 7.65 which contributes to highest ROCE during the year 2011 -2015 than the other pharmaceutical companies. The GlaxoSmithKline pharmaceutical company has also some increasing measures and decreasing measures but decreasing point is moderately better than other Pharmaceutical Companies. So GlaxoSmithKline Pharmaceutical Company is moderately good than other companies as it has highest ROCE, highest EBIT margin and financial flexibility.

At the final representation, it can conclude that the GlaxoSmithKline Pharmaceutical Company has the average best performance considering its ROCE than the other Pharmaceutical Companies.

References Références Referencias

1. Alaghi, K. (2010). Financial leverage and systematic risk. African Journal of Business Management, Vol.5, (1), 39-43.Athanasoglou, P. P., Sophocles, N. B., and Delis, M. D. (2008).Bank-specific, industry specific and macroeconomic determinants of bank profitability. International Financial Markets, Institutions and Money, 18(2), 121-136.
2. Athanasoglou, P.P., Brissimis, S.N. and Delis, M.D. (2005). Bank-Specific, Industry-Specific and Macroeconomic Determinants of Bank Profitability. Bank of Greece Working Paper, No. 25.Blumenthal, R. G. (1998). 'Tis the gift to be simple: Why the 80-year-old Du Pont model still has fans. CFO Magazine, January, 1998, pp. 1-3.
3. Burson, R. (1998). Tools you can use for improved ratio analysis. San Diego Business Journal, 12/07/98, Vol. 19, Issue 49, pp. 19-23.
4. Clausen, James. (2009). "Accounting 101– Financial Statement Analysis in Accounting: Liquidity Ratio Analysis Balance Sheet Assets and Liabilities"", *Journal of financial statement.*
5. Clausen, James. (2009), "Basic Accounting 101- Asset Turnover Ratio: Inventory, Cash, Equipment and Accounts Receivable Analysis"", *Journal of asset turnover ratio.*

6. Darmika, R. (2008). DuPont analysis of an information technology enables competitive advantage. Journal compilation Blackwell Publishing Ltd, Vol. 15, (2), 239-250.
7. Herciu, M., Belascu, L., Ogrean, C. (2011) A DuPont Analysis of the 20 Most Profitable Companies in the World. International Conference on Business and Economics Research, Vol. 1, 2011, pp.45-48.
8. Liesz, T.J. (2004). Really modified Du Pont analysis: five ways to improve return one quity. The Economics review, Vol. 81,(3), 231-243.
9. Little, P.L., Mortimer, W.J., Keene, M.A., and Henderson, L.R. (2009). Evaluating the effect of recession on retail firms' strategy using DuPont method. Journal of Financial and Quantitative analysis, Vol.38, (1), 1-36.
10. Mark, T.S. (2008). The Use of DuPont Analysis by Market Participants. "The Accounting Review", VOL. 83, (3), 307-320.
11. Marshall, D., McManus, W., Viele, D. (2003).Managerial Accounting and Cost-Volume-Profit Relationships. Accounting: What the numbers mean (6thed.). New York:
12. Mihaela, H., Claudia, O., and Lucian, B. (2011).A Du Pont Analysis of the 20 Most Profitable Companies in the World. International Conference on Business and Economics Research, vol.1, (2), 87–106.
13. Nelgadde, Jo. (2010). "Accounts Receivable Analysis: A Guide to Analyzing Trade Debtors for Small Business Owners"""", *Journal of accounts receivable analysis.* Nelgadde, Jo. (2009). "Inventory Analysis: A Guide to Analyzing Inventory for Small Business Owners """", *Journal of inventory analysis.*
14. Nissim, D., & Penman, S. (2001). Ratio analysis and valuation: From research to practice. Review of accounting studies, 6, 109-154.http://dx.doi.org/10.1023/A:1011338221623
15. Palepu, K., & Healy, P. (2008). Business analysis and valuation: Using financial statements (Fourth edition). Mason, OH: Thomson Southwestern.
16. Richardson, S., Sloan, R., Soliman, M. and Tuna,I. (2006). The implications of firm growth and accounting distortions for accruals and profitability. The Accounting Review 81: 713–743.
17. Soliman, M. (2008). The use of Du Pont analysis by market participants. The Accounting Review, 83(3), 823-853.
18. Soliman, M. (2004). Using industry-adjusted DuPont analysis to predict future profitability and returns. Ph.D. dissertation, University of Michigan. http://dx.doi.org/10.2308/accr.2008.83.3.823
19. Thachappilly, Gopinathan. (2009). "Profitability Ratios Measure Margins and Returns: Profit Ratios Work with Gross, Operating, Pretax and Net Profits". *Journal of profitability ratio measure margin and return.*
20. Weygandt, J. J, Kieso, D. E, &Kell, W. G. (1996). Accounting Principles (4th ed.). New York, Chichester, Brisbane, Toronto, Singapore: John Wiley & Sons, Inc. p. 800.
21. Weygandt, J. J, Kieso, D. E., & D, Warfield Terry (2001). "Intermediate Accounting: Return on equity ratio". (10th ed.). Bearcat Company, Vol-1.p. 830.
22. Zain, Maria. (2008). "How to Use Profitability Ratios: Different Types of Calculations that Determine a Firm's Profits """", *Journal of profitability ratio analysis* 55.