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A Study of Accounting Ratio Analysis of National Stock Exchange Companies

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ABSTRACT

The study is conducted strictly supported secondary information obtained through websites. By victimization the magnitude relation analysis tool will| we are able to analyze the performance of firm's and that we can simply ascertain the strength and weakness of the corporate and their position within the market. Totally different ratios square measure utilized in this study and significantly those that were collected for a amount of 5 years2014-2018 type the audited annual reports of the businesses and maintained and provided by many organizations. And national exchange (NSE) for the aim of effective periodical analysis is employed and from them ratios is calculated therefore per that we are able to simply compare the performance. The paper used accounting ratios and annual report analysis of corporations. Namely, profit which could have an effect on the monetary performance of the companies. Magnitude relation analysis has been done to investigate and compare the performance trends over many years. totally different ratios such as; worth to Earnings magnitude relation (P/E), come back on Equity (ROE), come back on Assets (ROA), PEG magnitude relation (price/earnings to growth ratio) Earnings before Interest, Taxes, Depreciation, and amortization magnitude relation (EBITDA) and STOCK worth magnitude relation square measure being calculated so as to review the monetary position of the companies, And conjointly to seek out the relation of every magnitude relation on each other victimization correlation take a look at. Monetary performance could be a subjective live of however well a firm will use assets from its primary mode of business and generate revenues. It's conjointly used as a general live of a firm's overall monetary health over a given amount. This study would supply a direction to corporations and to different corporations therefore on with efficiency manage and maintain assets necessities so as to boost the profit position. Monetary performance and analysis of 5 corporations beneath the FMCG class like HUL, Dabur, Nestle, P&G, and Marico. These corporations state accounting analysis, monetary analysis and assessment of the profit and responsibility of a business. The most supply of identification behind this study is to research the monetary functioning position of India's high 5 FMCG corporations.

Keywords: Financial Analysis, Profitability, market Ratios**.**

1 Introduction:

The HUL Company was supported within the year 1933 as geographical region vanaspati producing co ltd and following a merger of constituent teams in 1956, it absolutely was renamed geographical region lever restricted. the corporate was renamed in June 2007 as geographical region unilever restricted. it's a subsidiary of Unilever, a British company. Proctor and Gamble Company (P&G) was supported within the year 1837and it's one among the oldest product-based corporations within the world. For the primary time in 1858-59, the P&G Company has recorded over one million sales. within the time of yank civil wars, the P&G Company got an enormous contract for activity soaps and candles to the regular army. Dabur Asian nation restricted is these days India's most reliable label and {also the} world's biggest Ayurvedic and also natural Health care Company. The 133- years -old Ayurvedic Company, supported by the Burman family, started operational in1884 as AN Ayurvedic medicines company. Dabur flourishing journey modified from a family- run business to a professionally managed enterprise. the corporate includes a wide distribution network covering half dozen million shops with a high penetration in each urban and rural markets. Marico restricted a number one fast-paced commodity player was incorporated on thirteenth Gregorian calendar month 1988 underneath the name Marico food restricted. presently gift in twenty five countries across rising markets of Asia and Africa, Marico has natured multiple brands within the classes to any or all merchandise. Nestle was supported within the year 1866 by Henri nestle and is these days the world's biggest food and drink company. it absolutely was supported and headquartered in Vevev, Svizzera. it's fifth largest company of the globe in keeping with its turnover and gift in eighty one countries of the world having 522 factories.

2 Review of literature

(Mr. Manjunath Awalakki. and Dr. Archanna H. N. 2021)The findings of paper are significant as far as framing investment strategies techniques and to predict market efficiencies.Hindustan Unilever Limited is the Indian arm of the Anglo-Dutch company Unilever. Both Unilever and HUL have established themselves well in the Fast-moving Consumer Goods (FMCG) category. In India, the company offers many households brands like, Dove, Lifebuoy, Lipton, Lux, Pepsident, Ponds, Roxana, Sun silk, Surf, Vaseline etc. since nestle began over 143 years ago, nestle success with product

innovations and business acquisitions has turned it into the largest food company in the world. As the years have passed, the Nestle family has grown to include chocolate, soups, coffee, yoghurts, mineral waters & other food products. P&G Company is the 6th most profitable corporation in the world and the 5th largest corporation in the United States by market capitalisation. It spends more on US advertising than any other company. Marico limited, together with its various consumer goods and services in India, the Middle East, Asian countries, Egypt, and the United States. The company provides coconut oils, edible oils, hair oils and other hair care products, fabric care products, processed foods, soaps, and baby care products, as well as skin care and Ayurvedic products. Dabur company products are marketed in more than 50 countries worldwide. Some of brands are like Amla, Hajmola, and Hingoli, Dabur honey, Vatica, Babool toothpaste and real active. Sheela Christina (2011) Secondary data collection method is used for the analytical type of research design. Before conducting the study, validity and reliability is checked for the past five years where the researcher used this for the purpose of study. Manjunath Awalakki (2021) the results reveal that all the independent variables have a positive and significant impact on the determination of stock returns. The consequences of this investigation propose that managers' accomplishment in stock valuation basically relies upon the right comprehension of compelling resources.

Robert .O. Edmister (2009) An Empirical Test of Financial Ratio analysis for Small Business Failure. This study developed and empirically tested a number of methods for analyzing financial ratios to predict the failure of small business. Edward I. Altman (1968) financial ratios discriminate analysis and the prediction of corporate bankruptcy. This study used to analyze the performance of the business enterprise by using ratio analysis as the analytical technique. Keith A Houghton, David R Woodcliff (1987) Financial Ratios: The Prediction of corporate success and failure. This paper investigated about the financial ratios to predict the business failure. This has done from both the Human Information Processing (HIP) and from the prediction from environmental predictability.

3. Objectives:

1. To know the liquid position of company
2. To relate the financial performance and also investigate the financial changes past five years
3. Analysis of financial ratios.

4. Statement of the problem

This paper examined the annual reports and money statements of the businesses from 2014-2018 with the assistance of applied mathematics analysis, the sticking of following years may also be created for specific item like freelance variables and dependent variables. The applied mathematics scrutiny may also be applied to each magnitude relation and by their upon additional comprehensive results are often obtained. Thus, this study conjointly provides vital info to the management of the businesses, for prophesying profit it clearly shows that company we have to speculate and that company is loss within the market.

5. Research methodologies

5.1 **Ratio Analysis**: Ratio analysis is a technique of analysis and interpretation of economic statements. It is the process of determinant and presenting the relationship of items and group of items within the statement.

5.2 Data analysis : Data analysis is the process of examining each component of the data presented utilising diagnostic and logical reasoning. When doing a research project, this type of analysis is simply one of the many procedures that must be completed. Data from a variety of sources is gathered, researched, and analysed to arrive at a result or conclusion.

5.3 Statistical Techniques: Arithmetic Mean, Standard Deviation, Coefficient of Variation, Correlation Coefficient, and Regression

5.4 Independent variables: An independent variable is a property that can be altered to determine the impact on the dependent variable. Independent variables can be used to evaluate performance, sales, expansions, profitability, and more. Identifying Independent Variables Depending on the dependent variable you're measuring, practically any component could be an independent variable. You may need to conduct some hypothesising when it comes to finding independent variables.Simply by studying your product, service, market, and industry, you can probably identify the most influential elements that will effect the dependent variable. The sensitivity of a dependent variable to changes in an independent variable can be measured via a sensitivity analysis.

Regression analysis helps you identify trends and correlations between variables. The regression value can then be used to forecast how dependent values may change in the future based on changes in independent variables.

Current study uses the measures of independent variables they are; ROE (Return on Equity), ROA (Return on Assets), P/E (Price to Earnings ratio), P/B (Price to Book Value ratio), PEG (price/earnings to growth ratio).

5.5 Dependent variable: A dependent variable is a variable whose value will change depending on the independent variable. It is the variable being tested, and therefore, it is called the dependent variable. Dependent variables are also known as outcome variables or response variables.

5.6 Descriptive analysis: A descriptive statistic is a summary statistic that quantitatively describes or summarizes features from a collection of information, while descriptive statistics is the process of using and analyzing those statistics. Some measures that are commonly used to describe a data set are measures of central tendency and measures of variability or dispersion. The mean, median, and mode are measurements of central tendency, while the standard deviation (or variance), the minimum and maximum values of the variables, kurtosis, and skewness are measures of variability.

5.7 Use in statistical analysis: Descriptive statistics provide straightforward descriptions of the data collected. These summaries might be quantitative, such as summary statistics, or visual, such as simple graphics. These summaries may serve as the foundation for an initial description of the data as part of a larger statistical study, or they may be adequate for a specific research on their own.

The use of descriptive and summary statistics has a long history, and the first time the topic of statistics was brought up was through the basic tabulation of population and economic data. More recently, the term "exploratory data analysis" was used to describe a group of summarization techniques. In the corporate environment, descriptive statistics are valuable for summarising a variety of data kinds. For example, investors and brokers can utilise a historical account of return behaviour to make better investment decisions in the future by doing empirical and analytical study on their assets.

5.8 Correlation analysis: Financial correlations are used to determine the relationship between the changes in two or more financial variables over time. The values of equities stocks and fixed-income bonds, for example, frequently move in opposing directions: when investors sell stocks, they frequently use the profits to acquire bonds, and vice versa. Stock and bond prices are adversely connected in this situation. Financial correlations are extremely important in today's world of finance. Increased diversification raises the return/risk ratio in the capital asset pricing model.Value at risk, projected shortfall, and portfolio return variance are all risk indicators.

5.9 Regression analysis:: Regression analysis is a collection of statistical techniques used to estimate the connection between dependent variables (or response variables) and one or more independent variables in statistical modelling (or covariates or explanatory variables or features). Linear regression is the most frequent type of regression analysis, in which a line (or a more sophisticated linear combination) is found that most closely fits the data according to a set of mathematical criteria.

This permits the researcher to estimate the conditional expectation (or population average value) of the dependent variable when the independent variables take on a specified set of values for precise mathematical reasons. Less prevalent types of regression utilise somewhat different approaches to estimate alternative location parameters (e.g., quantile regression or necessary condition analysis) or the conditional expectation across a larger set of non-linear models (e.g., conditional expectation estimation).regression (nonparametric). Regression analysis is primarily employed for two reasons that are conceptually distinct.

1. Regression analysis is frequently used for prediction and forecasting, and its application overlaps significantly with machine learning.
2. Regression analysis can be used to identify causal correlations between independent and dependent variables in specific scenarios. Importantly, regressions reveal correlations between a dependent variable and a group of independent variables in a given dataset by themselves.A researcher must carefully demonstrate why existing correlations have predictive power for a new context or why a relationship between two variables has a causal interpretation before using regressions for prediction or inferring causal relationships. When using observational data to estimate causal links, the latter is very crucial.

6. Analyze data

6.1 Data analysis is the systematic application of statistical and/or logical techniques to describe and display, summarise and assess data. The five year data which we are collected on the basis of annual reports, market structure in the listed companies of Dabur, Nestle, HUL, Marico and P&G.

6.2 (6.2 table shows the 2014-2018 data of the Dabur company limited)

DABUR						
Year	P/E	ROE	ROA	PEG	EBITDA	STOCK PRICE
2014	34.28	34.41	17.20	1.74	24.93	54.92
2015	43.76	31.78	17.45	2.77	31.80	120.31
2016	35.14	30.00	18.05	2.04	25.76	162.186
2017	38.26	26.34	16.52	19.92	27.58	248.33
2018	42.71	23.73	15.56	7.04	30.92	257.18

In this Dabur company the performance for the financial ratios is performed well comparing all the ratios P/E, ROE, ROA, PEG, and EBITDA. in the analysis of 5 year data P/E ratio boomed in the year 2015 , ROE ratio boomed in the year 2014,ROA ratio boomed in the year 2016,PEG ratio boomed in the year 2017,EBITDA ratio boomed in the year2015.

6.3(6.3 table shows the 2014-2018 data of the HUL limited)

HUL						
Year	P/E	ROE	ROA	PEG	EBITDA	STOCK PRICE
2014	33.19	111.54	28.69	10.94	18.95	380.67
2015	43,32	108.33	30.24	4.11	20.79	652.44
2016	45.46	62.97	27.98	-8.82	18.19	688.29
2017	44.09	66.37	28.50	5.43	19.39	874.40
2018	55.35	71.61	29.19	3.36	21.66	1343.19

In this HUL company the performance for the financial ratios is performed well comparing all the ratios P/E, ROE, ROA, PEG, and EBITDA. In the analysis of 5 year data P/E ratio boomed in the year 2018, roe ratio boomed in the year 2014, ROA ratio boomed in the year 2015, peg ratio negatively in the year 2016, EBITDA ratio boomed in the year2018.

6.4 (6.4 table shows the 2014-2018 data of the P&G limited)

P&G						
year	P/E	ROE	ROA	PEG	EBITDA	STOCK PRICE
2014	45.74	30.11	20.03	0.941	27.04	-56.23
2015	63.98	28.17	17.77	4.32	38.55	-60.33
2016	48.12	25.58	19.50	2.20	27.82	-51.78
2017	60.18	82.25	37.30	24.88	34.99	-40.17
2018	86.00	46.50	26.28	-6.40	49.83	-37.16

In this P&G Company the performance for the financial ratios are performed well comparing all the ratios P/E, ROE, ROA, PEG, and EBITDA. In the analysis of 5 year data P/E ratio boomed in the year 2017, roe ratio boomed in the year 2017, ROA ratio boomed in the year 2017, PEG ratio negatively performed in the year 2018, EBITDA ratio boomed in the year 2018.

6.5(6.5 table shows the 2014-2018 data of the Marico limited)

Marico						
Year	P/E	ROE	ROA	PEG	EBITDA	STOCK PRICE
2014	13.69	35.67	16.37	0.615	90.24	-22.19
2015	21.69	31.43	18.32	1.20	13.64	76.2
2016	44.30	35.27	21.04	-1.17	27.63	136.61
2017	47.65	34.34	21.98	3.90	30.62	194.04
2018	51.67	32.03	19.96	26.37	34.71	211.33

In this Marico company the performances for the financial ratios are performed well comparing all the ratios P/E, ROE, ROA, PEG, and EBITDA. In the analysis of 5 year data p/e ratio boomed in the year 2018 , ROE ratio boomed in the year 2014,ROA ratio boomed in the year 2017,PEG ratio performed negative in the year 2016,EBITDA ratio boomed in the year2018.

6.6 (6.6 table shows the 2014-2018 data of the NESTLE limited)

NESTLE						
Year	P/E	ROE	ROA	PEG	EBITDA	STOCK PRICE
2014	51.96	41.76	20.36	8.59	28.76	4197.55
2015	99.76	18.55	9.25	-1.90	47.85	6226.08
2016	58.05	30.51	14.70	0.746	31.14	4197.547
2017	61.94	35.82	16.64	2.77	32.15	6100.017
2018	66.51	43.72	19.87	2.13	35.94	8721.73

In this nestle company the performances for the financial ratios are performed well comparing all the ratios P/E, ROE, ROA, PEG, and EBITDA. In the analysis of 5 year data P/E ratio boomed in the year 2015, roe ratio boomed in the year 2018, ROA ratio boomed in the year 2014, PEG ratio performed negatively in the year 2015, EBITDA ratio boomed in the year2015.

6.7 (6.7 table shows the complete data analysis for the five companies along with their financial ratios)

DATA ANALYSIS OF						
DABUR, NESTLE, HUL,P&G AND MARICO COMPANIES						
YEAR	P/E	ROE	ROA	PEG	EBITDA	STOCK PRICE
2014	35.772	50.698	20.53	4.5652	37.98	910.944
2015	54.502	43.652	18.626	2.1	30.526	1402.94
2016	46.214	38.86	20.254	-1.0008	26.108	1026.5792
2017	44.854	49.024	24.188	11.28	28.946	1475.32
2018	60.314	43.518	22.172	6.5	34.614	2099.254

6.8 Descriptive analysis (6.8 table shows the descriptive analysis for the five NSE listed companies with their financial ratio**)**

YEAR		P/E	ROE	ROA	PEG	EBITDA	STOCK PRICE
Mean	2016	48.3312	45.1504	21.154	4.68888	31.6348	1383.007
Standard Error	0.707107	4.218846	2.124379	0.944236	2.071389309	2.09930699	208.7837
Median	2016	46.214	43.652	20.53	4.5652	30.526	1402.94
Mode	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Standard Deviation	1.581139	9.433626	4.750255	2.111376	4.631767303	4.694193136	466.8546
Sample Variance	2.5	88.99331	22.56493	4.45791	21.45326835	22.0354492	217953.3
Kurtosis	-1.2	-0.56398	-1.24851	0.017093	0.123264988	-1.083829404	0.65855
Skewness	0	-0.03821	-0.10793	0.524824	0.380475159	0.371753005	0.891699
Range	4	24.542	11.838	5.562	12.2808	11.872	1188.31
Minimum	2014	35.772	38.86	18.626	-1.0008	26.108	910.944
Maximum	2018	60.314	50.698	24.188	11.28	37.98	2099.254
Sum	10080	241.656	225.752	105.77	23.4444	158.174	6915.037
Count	5	5	5	5	5	5	5
Largest(1)	2018	60.314	50.698	24.188	11.28	37.98	2099.254
Smallest(1)	2014	35.772	38.86	18.626	-1.0008	26.108	910.944

6.9 Correlation (6.9 table shows the correlation for the five NSE listed companies with their financial ratio**)**

RATIOS	P/E	ROE	ROA	PEG	EBITDA	STOCK PRICE
	1					
P/E	0.660974					
ROE	-0.29917	1				
ROA	0.662447	0.400773	1			
PEG	0.445472	0.69946	0.858533	1		
EBITDA	-0.27997	0.631757	-0.03297	0.243821	1	
STOCK PRICE	0.829425	-0.13733	0.399252	0.455566	0.095607909	1

6.10 Regression Analysis (6.10 table shows the regression for the five NSE listed companies with their financial ratio)

a. P/E RATIO (price-to-Earnings ratio)

Summary output

Regression Statistics	
Multiple R	0.952544072
R Square	0.907340209
Adjusted R Square	0.722020627
Standard Error	234.4593309
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	538286.99	269143.495	4.896083829	0.304400708
Residual	1	54971.17786	54971.17786		
Total	3	593258.1678			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-387381.4334	220319.4688	-1.758271457	0.329207094	-3186805.711	2412042.844	-3186805.711	2412042.844
2014	191.8673728	109.3986426	1.753836868	0.329898411	-1198.174178	1581.908924	-1198.174178	1581.908924
35.772	38.50516747	19.41167477	1.983608726	0.297268003	-208.1435464	285.1538814	-208.1435464	285.1538814

b. ROE(Return on equity)

Summary output

Regression Statistics	
Multiple R	0.137331523
R Square	0.018859947
Adjusted R Square	-0.308186737
Standard Error	5.433151752
Observations	5

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1.702293324	1.702293324	0.057667447	0.825695268
Residual	3	88.55741388	29.51913796		
Total	4	90.2597072			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	47.08294687	8.406377567	5.600860358	0.011245623	20.33010165	73.8357921	20.33010165	73.8357921
STOCK PRICE	-0.001397351	0.00581889	-0.240140473	0.825695268	-0.019915656	0.017120954	-0.019915656	0.017120954

c. ROA (Return on Average)

Summary output

Regression Statistics	
Multiple R	0.399251665
R Square	0.159401892
Adjusted R Square	-0.120797477
Standard Error	2.235266043
Observations	5

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2.842397155	2.842397155	0.568887405	0.505504995
Residual	3	14.98924285	4.996414282		
Total	4	17.83164			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	18.65678912	3.458488033	5.394492895	0.012483653	7.65033666	29.66324159	7.65033666	29.66324159
STOCK PRICE	0.001805638	0.002393964	0.75424625	0.505504995	-0.005813023	0.009424299	-0.005813023	0.009424299

d. PEG RATIO (Price/earnings to growth ratio)

Summary output

Regression Statistics	
Multiple R	0.455566173
R Square	0.207540538
Adjusted R Square	-0.056612616
Standard Error	4.761070676
Observations	5

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	17.80969145	17.80969145	0.785682606	0.440695153
Residual	3	68.00338196	22.66779399		
Total	4	85.81307341			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-1.561998188	7.366508347	-0.21204051	0.845664585	-25.00551546	21.88151908	-25.00551546	21.88151908
STOCK PRICE	0.004519772	0.005099093	0.88638739	0.440695153	-0.011707818	0.020747362	-0.011707818	0.020747362

e. EBITDA RATIO(Earnings before interest, taxes, depreciation, and amortization)

Summary output

Regression Statistics	
Multiple R	0.455566173
R Square	0.207540538
Adjusted R Square	-0.056612616
Standard Error	4.761070676
Observations	5

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	17.80969145	17.80969145	0.785682606	0.440695153
Residual	3	68.00338196	22.66779399		
Total	4	85.81307341			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-1.561998188	7.366508347	-0.21204051	0.845664585	-25.00551546	21.88151908	-25.00551546	21.88151908
STOCK PRICE	0.004519772	0.005099093	0.88638739	0.440695153	-0.011707818	0.020747362	-0.011707818	0.020747362

7. CONCLUSION

The study is conducted to seek out the link between money indicators of the companies with Ratios of the companies. The study had 5 independent variables and one variable quantity. we've got taken 5 national stock exchanges corporations DABUR, HINDUSTAN UNILIVER LIMITED, MARICO, PROCTER&GAMBLE AND NESTLE COMPANY LTD.P/E ratio performed within the year 2014 to 2018 and every one values area unit

positive and year by year continue increasing their values.ROE magnitude relation performed well within the year a pair of014 and it'll decreased next 2 years and once more 2017-18 it'll accumulated.ROA magnitude relation performed same in last 5 years, PEG magnitude relation performed negatively within the year 2016.EBITDA magnitude relation performed as same as last 5 years. P&G Company performs negative and NESTLE boomed in last years.

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