ISSN 2394-5303

Printing Area™

International Multilingual Research Journal

Issue-35, Vol-05, November-2017

Editor

Dr.Bapu G.Gholap

ISSN: 2394 5303 | Impact Factor 4.002(IIJIF) | Printing Area International Research journal | November 2017 Issue-35, Vol-05 | 06

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AN EMPIRICAL STUDY OF PROFITABILITY ANALYSIS OF SELECTED PHARMACEUTICAL COMPANIES IN INDIA

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Abstract

India is among the top six global pharmaceutical producers in the world. Indian vaccines are exported to 150 countries. India produces 40-70 per cent of the WHO demand for DPT & BCG and 90 per cent of measles vaccine. Approximately 70 per cent of the patients in developing countries receive Indian medicines through NGOs like The Clinton Foundation, Bill & Melinda Gates Foundation, Doctors Without Borders, the UNCTAD etc. Presently there are 10,500 manufacturing units and over 3,000 pharma companies in India, growing at an exceptional rate. India has about 1,400 WHO GMP approved manufacturing units. The Government of India has announced a host of measures to create a facilitating environment for the Indian pharmaceutical industry. The policies of the Government of India are aimed at building more hospitals, boosting local access to healthcare, improving the quality of pharmaceuticals and improving the quality of medical training. The Government of India is committed to setting up robust healthcare and delivery mechanisms. India is well placed to become one of the major drivers in providing healthcare to all while controlling the ever-increasing healthcare spend of both developed and developing nations. The research paper mainly focuses on analyses of profitability of selected Pharmaceutical companies in India during period of 2011-12 to 2015-16, ANOVA testing.

Key Words Net Profit, (Pir-Ent) Piramal Enterprise, Cid-Health) Cadila Healthcare, (ROCE) Return on Capital Employed, (SPI) Sun Pharmaceutical Industries, (GP) Gross Profit Ratio, (CP) Cash profit, (OP) Operating profit.

Introduction

Profitability is ability of a company to use its resources to generate revenues in excess of its expenses. In other words, this is company's capability of generating profits from its operations.

Profitability is one of four building blocks for analyzing financial statements and company performance as a whole. The other three are efficiency, solvency, and market prospects. Investors, creditors, and managers use these key concepts to analyze how well a company is doing and the future potential it could have if operations were managed properly.

The two key aspects of profitability are revenues and expenses. Revenues are the business income. This is the amount of money earned from customers by selling products or providing services. Generating income isn't free, however. Businesses must use their resources in order to produce these products and provide these services. Resources, like cash, are used to pay for expenses like employee payroll, rent, utilities, and other necessities in the production process. Profitability looks at the relationship between the revenues and expenses to see how well a company is performing and the future potential growth a company might have.

Review of Literature

Prof. Ketan H.Popat (September 2012), in his article, A Comparative Study Of Profitability Analysis Of Selected Steel Industries In this research Steel Ministry, at present, has 12 public sector undertakings (PSUs) including the Steel Authority of India Limited (SAIL), National Mineral Development Corporation (NMDC), Kudramukh

Iron Ore Company Limited (KIOCL), Rastriya Ispat Nigam Limited (RINL), Metallurgical and Engineering Consultants India Limited (MECON). these various steel companies are working in India. The profitability ratios are calculated to measure the operating efficiency of the business enterprise. Besides management of the company, creditors and owners are interested in the profitability of the firm. Investor wants to get reasonable return on their investments. This is only possible when the company is having satisfactory profit. For this purpose researcher would like to evaluate the profitability analysis with reference to various ratios like, PBDT to Gross Sales, PAT to Gross Sales, PAT to Net Sales, PAT to Shareholders fund and PAT to Total Assets to examined the financial result of selected steel industries in India. This research give us result of profitability with reference to study period from 2006-07 to 2010-11.

Dr. Arti Mudaliar, Dr. B.M.S. Bhadauria (April 2014), In their research work paper were presented Keeping sector complexities in mind this study is carried out and it is focused on analyzing the profitability of two multinational companies. Its core aim is to evaluate the past performance, income position and the expected future performance of the two companies in different business environment along with recognizing the effect of profitability ratios on company's future. Therefore this paper deals with the comparative competitive analysis of profitability of the number one company in the index's Food and Beverage Super sector PepsiCo and its giant competitor Coca Cola. It has been analyzed on the basis of ratios. Further their SD and CV, the Sum of Mean Values and Average score are calculated. At last concluding remark has been given on the basis of test of significance. It has been noticed that the Profitability position of both the companies are quite similar in spite of different business environment and market forces.

Asma Khan and Jyoti Singhal (June 2015), In their study, Growth and Profitability Analysis of Selected IT Companies ,this paper focuses on the performance of selected IT industries in terms of ratios. The study covers a period of five years and applies various profitability ratios and found that the performance of HCL Technologies was satisfactory except in Return on net worth and return on long term funds whereas in case of Tech Mahindra return on net worth and return on long term funds is satisfactory. Wipro showed an average performance during the study period. Authors have used ANOVA to find out the significant difference between the companies and between the years. This paper also enhances the knowledge of the investor about the growth of the IT companies.

Research Methodology

The present study is mainly based on secondary data which have been collected from the news papers, websites, and various other documents of the organization. Data has been collected for a period of last five years (i.e. from 2011-12 to 2015-16) mainly to analyze growth and profitability of selected pharmaceutical companies . In order to evaluate the growth and profitability, financial and statistical tools like ratio analysis, percentage and Anova testing have been used.

Objectives of The Study

1. To compare the profitability performance of selected pharmaceutical companies in India.
2. To measure the profitability of Pharmaceutical Companies.
3. To identify the factors affecting profitability of Pharmaceutical Companies.
4. To compare the performance of the selected Pharmaceutical Companies regards their profitability and related factors.

Sample of The Study

For the present study selected Pharmaceutical companies in India are as Sun Pharmaceutical companies, lupin, Cadila Healthcare, Piramal Enterprises, and cipla.

Data Collection

The study is based on secondary data that have been collected from annual reports of the Selected Pharmaceutical Companies. The study covers the period of 5 years i.e. from year 2011-12 to year 2015-16.

Tool of Analysis ANOVA (Analysis of Variances), Comparison.

For the Purpose The following Parameters have been studied

1. Operating Profit Margin
2. Gross Profit Margin
3. Cash Profit Margin
4. Net Profit Margin
5. Return On Capital Employed
6. Return on Net Worth

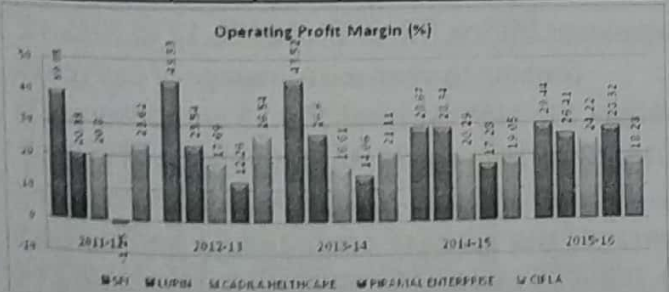
1. Operating Profit Margin (%)

Operating Profit Margin Ratio is the percentage of operating profit (i.e. profit before interest and tax) relative to the revenue earned during a period. Operating Profit Margin Ratio is also known as Operating Income Percentage and Operating Margin Ratio.

Formula:

Table-1: Operating Profit Margin of Selected Pharmaceutical Companies.

Particulars	2011-12	2012-13	2013-14	2014-15	2015-16	Total	Average
SPI	39.95	43.33	43.52	28.67	29.44	184.91	36.982
Lupin	20.39	23.54	26.6	28.34	26.41	125.28	25.056
Cad-Health	20.8	17.69	16.61	20.29	24.22	99.61	19.922
Pir-Ent	-1.25	12.26	14.06	17.28	28.32	70.67	14.134
Cipla	23.62	26.54	21.11	19.05	18.28	108.6	21.72
Total	103.51	123.36	121.9	113.63	126.67		



Graph-1: Operating Profit Margin of Selected Pharmaceutical Companies.

Interpretation

The above Table No. 1 displays operating profit margin of selected pharmaceutical companies during the year of 2011-12 to 2015-16.

Looking to year-wise average of operating profit margin, the highest total 126.67 was observed in 2015-16 and lowest 103.51 was witnessed in 2011-12. Further in case of company-wise total and average, the highest total 184.91 and average 36.982 was marked for SPI and lowest total 70.67 and average 14.134 was observed for Piramal Enterprises for the period under the study.

SPI stood at first (1st) rank, Lupin secured second (2nd) rank, Cipla got third (3rd) rank, Cadila secured fourth (4th) rank, Piramal perceived fifth (5th) rank.

Hypothesis Testing

H_0: There is no significant difference in Operating Profit margin ratio between selected companies.

H_1: There is significant difference in Operating Profit margin ratio between selected companies.

Table-2: Anova of Operating Profit Margin

Source of Variation	SS	df	MS	F	P-value
Between Groups	69.5985	4	17.39963	0.161151	0.001
Within Groups	2159.419	20	107.9709		
Total	2229.017	24			

F-Value is 0161 with p-value 0.001. As p-value is less than 0.01, null hypothesis rejected at 1% level of significant and concluded that there is significant difference in the Operating Profit Margin between selected companies.

2. Gross Profit Margin

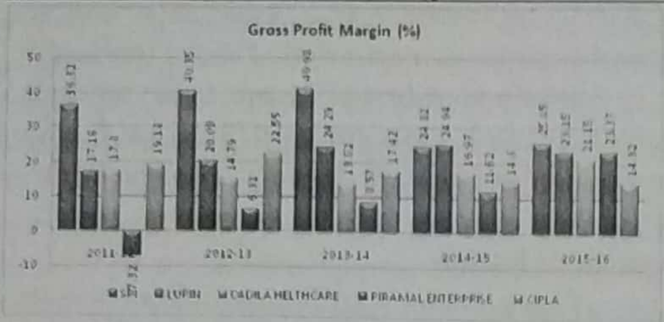
Gross margin ratio is the ratio of gross profit of a business to its revenue. It is a profitability ratio measuring what proportion of revenue is converted into gross profit (i.e. revenue less cost of goods sold).

$$\textbf{Formula}: \text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Revenue}}$$

Table-3:
Gross Profit Margin of Selected Pharmaceutical Companies.

Particulars	2011-12	2012-13	2013-14	2014-15	2015-16	Total	Average
SPI	36.32	40.35	40.98	24.32	25.85	167.82	33.564
Lupin	17.18	20.09	24.29	24.94	23.15	109.65	21.93
Cad-Health	17.8	14.79	13.82	16.97	21.15	84.53	16.906
Pir-Ent	-7.32	6.31	8.57	11.62	23.37	42.55	8.51
Cipla	19.18	22.55	17.42	14.6	14.32	88.07	17.614
Total	83.16	104.09	105.08	92.45	107.84		

Graph-2: Gross Profit Margin of Selected Pharmaceutical Companies.



The Above table no.2 displays Gross profit margin of selected pharmaceutical companies during the year of 2011-12 to 2015-16.

Looking to year-wise average of Gross profit margin, the highest total 107.84 was observed in 2015-16 and lowest 83.16 was witnessed in 2011-12. Further in case of company-wise total and average, the highest total 167.82 and average 33.564 was marked for SPI and lowest total 42.55 and average 8.51 was observed for Piramal Enterprises for the period under the study. SPI stood at first (1st) rank, Lupin secured second (2nd) rank, Cipla got third (3rd) rank, Cadila secured fourth (4th) rank, Piramal perceived fifth (5th) rank,

Hypothesis Testing

H_0: There is no significant difference in Gross Profit margin ratio between selected companies.

H_1: There is significant difference in Gross Profit margin ratio between selected companies.

Table-4: Anova of Gross Profit Margin

Source of Variation	SS	df	MS	F	P-value
Between Groups	86.73906	4	21.68477	0.177218	0.001
Within Groups	2447.242	20	122.3621		
Total	2533.981	24			

F-Value is 0161 with p-value 0.001. As p-value is less than 0.01, null hypothesis rejected at 1% level of significant and concluded that there is significant difference in the Operating Profit Margin between selected companies.

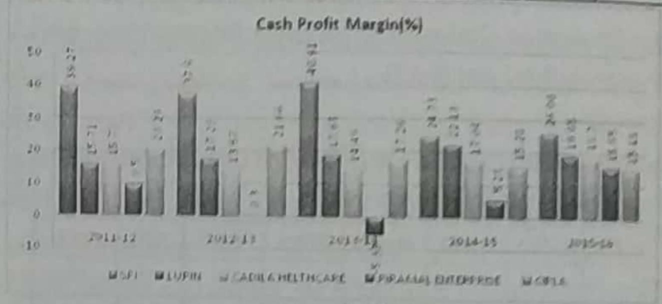
3. Cash Profit Margin

Cash ratio is the ratio of cash and cash equivalents of a company to its current liabilities. It is an extreme liquidity ratio since only cash and cash equivalents are compared with the current liabilities. It measures the ability of a business to repay its current liabilities by only using its cash and cash equivalents and nothing else.

Formula: $\text{Cash Profit Margin} = \dfrac{\text{Cash + Cash Equilents}}{\text{Current Liabilities}}$

Table-5: Cash Profit Margin of Selected Pharmaceutical Companies.

Particulars	2011-12	2012-13	2013-14	2014-15	2015-16	Total	Average
SPI	39.27	37.6	40.91	24.73	26.06	168.57	33.714
Lupin	15.71	17.29	18.68	22.13	19.05	92.86	18.572
Cad-Health	15.78	13.67	14.49	17.04	18.7	79.68	15.936
Pir-Ent	9.5	0.3	-5.33	5.28	15.65	25.4	5.08
Cipla	20.29	21.66	17.26	15.28	15.18	89.67	17.934
Total	100.55	90.52	86.01	84.46	94.64		



Graph-3:
Cash Profit Margin of Selected Pharmaceutical Companies.

The mentioned table no.3 displays Cash profit margin of selected pharmaceutical companies during the year of 2011-12 to 2015-16.

Looking to year-wise average of Cash profit margin, the highest total 100.55 was observed in 2011-12 and lowest 84.46 was witnessed in 2014-15. Further in case of company-wise total and average, the highest total 168.57 and average 33.714 was marked for SPI and lowest total 25.4 and average 5.08 was observed for Piramal Enterprises for the period under the study.

SPI stood at first (1st) rank, Lupin secured second (2nd) rank, Cipla got third (3rd) rank, Cadila secured fourth (4th) rank, Piramal perceived fifth (5th) rank,

Hypothesis Testing

H_0: There is no significant difference in Cash Profit margin ratio between selected companies.

H_1: There is significant difference in Cash Profit margin ratio between selected companies.

Table-6:

Anova of Cash Profit Margin

Source of Variation	SS	df	MS	F	P-value
Between Groups	34.41514	4	8.603786	0.065447	0.001
Within Groups	2629.222	20	131.4611		
Total	2663.637	24			

F-Value is 0.065 with p-value 0.001. As p-value is less than 0.01, null hypothesis rejected at 1% level of significant and concluded that there is significant difference in the Operating Profit Margin between selected companies.

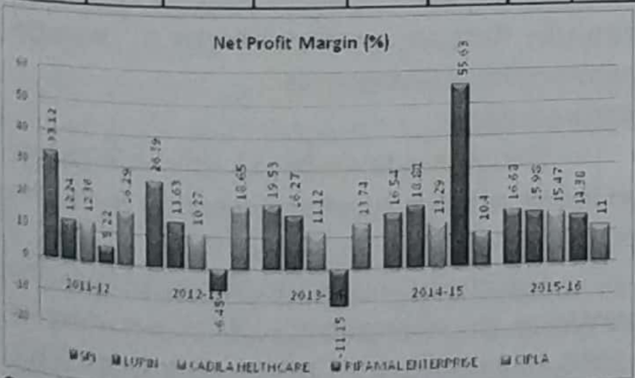
4. Net Profit Margin

Net profit margin is the percentage of revenue remaining after all operating expenses, interest, taxes and preferred stock dividends (but not common stock dividends) have been deducted from a company's total revenue.

Formula: $$\text{Net Profit Margin} = \frac{\text{Net Profit}}{\text{Revenue}}$$

Table-7: Net Profit Margin of Selected Pharmaceutical Companies.

Particulars	2011-12	2012-13	2013-14	2014-15	2015-16	Total	Average
SPI	33.12	26.39	19.53	16.54	16.68	112.26	22.452
Lupin	12.24	13.63	16.27	18.81	15.98	76.93	15.386
Cad-Health	12.36	10.27	11.12	13.29	15.47	62.51	12.502
Pir-Ent	5.22	-6.45	-11.15	55.63	14.38	57.63	11.526
Cipla	16.29	18.65	13.74	10.4	11	70.08	14.016
Total	79.23	62.49	49.51	114.67	73.51		



Graph-4: Net Profit Margin of Selected Pharmaceutical Companies.

The above table no.3 shows Net profit margin of selected pharmaceutical companies during the year of 2011-12 to 2015-16.

Looking to year-wise average of Net profit margin, the highest total 114.67 was observed in 2014-15 and lowest 49.51 was witnessed in 2014-15. Further in case of company-wise total and average, the highest total 112.26 and average 22.452 was marked for SPI and lowest total 57.63 and average 11.526 was observed for Piramal Enterprises for the period under the study.

SPI stood at first (1st) rank, Lupin secured second (2nd) rank, Cipla got third (3rd) rank, Cadila secured fourth (4th) rank, Piramal perceived fifth (5th) rank.

Hypothesis Testing

H_0: There is no significant difference in Net Profit margin ratio between selected companies.

H_1: There is significant difference in Net Profit margin ratio between selected companies.

Table-8: Anova of Net Profit Margin

Source of Variation	SS	df	MS	F	P-value
Between Groups	479.2345	4	119.8086	0.792809	0.001
Within Groups	3022.384	20	151.1192		
Total	3501.618	24			

F-Value is 0.792 with p-value 0.001. As p-value is less than 0.01, null hypothesis rejected at 1% level of significant and concluded that there is significant difference in the Operating Profit Margin between selected companies.

5. Return On Capital Employed

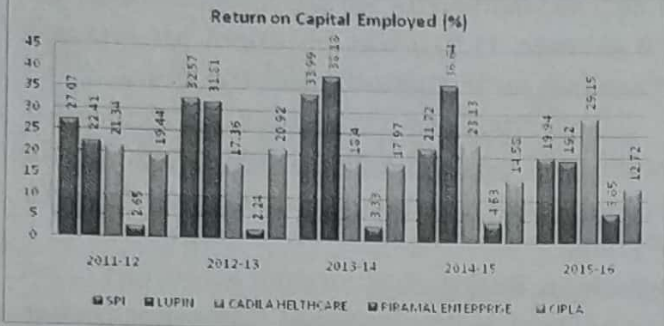
Return on capital employed (ROCE) is the ratio of net operating profit of a company to its capital employed. It measures the profitability of a company by expressing its operating profit as a percentage of its capital employed. Capital employed is the sum of stockholders' equity and long-term finance. Alternatively, capital employed can be calculated as the difference between total assets and current liabilities.

Formula: $$\text{Return on capital Employed} = \frac{\text{Net Operating Profit}}{\text{Capital Employed}}$$

Table-9:

Return on Capital Employed of Selected Pharmaceutical Companies.

Particulars	2011-12	2012-13	2013-14	2014-15	2015-16	Total	Average
SPI	27.07	32.57	33.99	21.72	19.94	135.29	27.058
Lupin	22.41	31.81	38.18	36.64	19.2	148.24	29.648
Cad-Health	21.34	17.36	18.4	23.13	29.15	109.38	21.876
Pir-Ent	2.65	2.24	3.33	4.63	6.65	19.5	3.9
Cipla	19.44	20.92	17.97	14.58	12.72	85.63	17.126
Total	92.91	104.9	111.87	100.7	87.66		



Graph-5: Return on Capital Employed of Selected Pharmaceutical Companies.

The above table No.9 reflect Return on Capital Employed of selected pharmaceutical companies during the year of 2011-12 to 2015-16.

Looking to year-wise average of Return on Capital Employed, the highest total 111.87 was observed in 2013-14 and lowest 87.66 was witnessed in 2015-16. Further in case of company-wise total and average, the highest total 148.24 and average 29.648 was marked for Lupin and lowest total 19.5 and average 3.9 was observed for Piramal Enterprises for the period under the study. Lupin stood at first (1st) rank, SPI secured second (2nd) rank, Cadila got third (3rd) rank, Cipla secured fourth (4th) rank, Piramal perceived fifth (5th) rank.

Hypothesis Testing

H_0: There is no significant difference in Return on Capital Employed ratio between selected companies.

H_1: There is significant difference in Return on Capital Employed ratio between selected companies.

Table-10: Anova of Return on Capital Employed

Source of Variation	SS	df	MS	F	P-value
Between Groups	73.43446	4	18.35861	0.141891	0.001
Within Groups	2587.699	20	129.3849		
Total	2661.133	24			

F-Value is 0141 with p-value 0.001. As p-value is less than 0.01, null hypothesis rejected at 1% level of significant and concluded that there is significant difference in the Operating Profit Margin between selected companies.

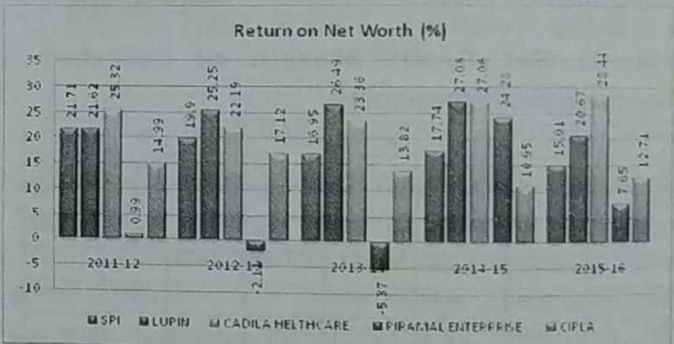
6. Return on Net Worth

This ratio gives you an idea of the returns generated by investing in the company. While ROCE is an effective measure to get a general overview of the profitability of the company's business operations, RONW lets you gauge the returns you can earn on your investment. When used along with ROCE, you get an overview of the company's competence, financial standing and its capacity to generate returns on shareholders' finances and capital employed.

Formula: Return On Net Worth = $\frac{\text{Net Profit}}{\text{Net Worth}}$

Table-11: Return on Net Worth of Selected Pharmaceutical Companies.

Particulars	2011-12	2012-13	2013-14	2014-15	2015-16	Total	Average
SPI	21.71	19.9	16.95	17.74	15.01	91.31	18.262
Lupin	21.62	25.25	26.49	27.08	20.67	121.11	24.222
Cad-Health	25.32	22.19	23.36	27.06	28.44	126.37	25.274
Pir-Ent	0.99	-2.11	-5.37	24.28	7.65	25.44	5.088
Cipla	14.99	17.12	13.82	10.95	12.71	69.59	13.918
Total	84.63	82.35	75.25	107.11	84.48		



Graph:6- Return on Net Worth of Selected Pharmaceutical Companies.

Interpretation

The above table No.11 reflect Return on Net Worth of selected pharmaceutical companies during the year of 2011-12 to 2015-16.

Looking to year-wise average of Return on Net Worth, the highest total 107.11 was observed in 2014-15 and lowest 75.25 was witnessed in 2013-14. Further in case of company-wise total and average, the highest total 126.37 and average 25.274 was marked for Cadila and lowest total 25.44 and average 5.088 was observed for Piramal Enterprises for the period under the study.

Cadila stood at first (1st) rank, Lupin secured second (2nd) rank, SPI got third (3rd) rank, Cipla secured fourth (4th) rank, Piramal perceived fifth (5th) rank.

Hypothesis Testing

H_0: There is no significant difference in Return on Net Worth ratio between selected companies.

H_1: There is significant difference in Return on Net Worth ratio between selected companies.

Table-12:

Anova of Return on Net Worth

Source of Variation	SS	df	MS	F	P-value
Between Groups	115.1572	4	28.7893	0.301208	0.001
Within Groups	1911.587	20	95.57933		
Total	2026.744	24			

F-Value is 0301 with p-value 0.001. As p-value is less than 0.01, null hypothesis rejected at 1% level of significant and concluded that there is significant difference in the Operating Profit Margin between selected companies.

MAJOR FINDINGS:

1. It is found that the operating profit margin of selected sample companies has been performing well throughout study period. In The year 2011-12 the operating profit margin of SPI is relatively better compare to other Pharmaceutical companies.
2. It can be apparently said that the net profit ratio of Piramal Enterprises perform far well than the other selected companies. although the Wipro and Tech Mahindra have optimized their growth rate from the beginning of the study period.
3. The return on capital employed again vastly shows better efficiency and effectiveness on their performance of their capital employed. There is drastic variation in the performance of capital employed. Here it can be concluded that the Lupin has performed well through-out the study period.
4. There is greater variation in the assets turnover of selected sample companies as they have the variation in their capital investment.

SUGGESTIONS:

1. All the Pharmaceutical companies are improving financial performance analysis by the available resources
2. The selected Pharmaceutical companies should implement new techniques of financial management for better performance in future.
3. As Return on Net Worth of selected companies are fluctuating, all selected companies have to take control on cash balance because cash is non earning asset and increasing cost of funds.

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