IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

A study of Profitability Analysis between Oil & Natural Gas Corporation (ONGC) & Reliance Industries Ltd.

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ABSTRACT: *The main persistence of a business unit is to make a profit. The profitability analysis is done to throw light on the current operating performance and efficiency of business firms.* ***It would be accordingly noted that net income character alone is not very helpful in defining the efficiency and performance of the business firm unless it is related to some other figures such as sales, net profit, operating expenses, capital employed, etc.*** *Thus, the profitability ratios are calculated to enlighten the result and comparison of business firms which is the sole criterion of the overall efficiency of the business concern.*

KEYWORDS: Net Profit Ratio, Operating Profit Ratio, Return on Capital Employed, t-test

MEANING & CONCEPT OF PROFITABILITY:

The word productivity is made out of two words, specifically, benefit and capacity. The term benefit has been clarified above and the term capacity shows the force of a business substance to procure benefits. The capacity of a worry likewise means its procuring power or working execution. The benefit might be characterized as the capacity of given speculation to acquire a return from its utilization. The benefit is a general idea though the benefit is a flat-out meaning. Notwithstanding being firmly identified with and associated together, benefit and productivity are two unique ideas. All in all, despite their conventional nature, every single one of them plays an unmistakable part in business.

As a flat-out term, the benefit has no pertinence to analyze the productivity of a business association. An extremely high benefit doesn't generally demonstrate sound hierarchical productivity and low benefit isn't generally an indication of authoritative affliction. Hence, one might say that benefit isn't the great variable based on which the functional effectiveness and monetary productivity of an association can measure up. To quantify the usefulness of capital utilized and to gauge functional effectiveness, benefit examination is considered as perhaps the best method.

RESERCH DESIGN:

The primary purpose of the present study has been to obtain a deep insight and full familiarity with the profitability of petroleum refineries in India. The present study is based on secondary data i.e., annual reports and accounts of the companies selected for the study. Five years commencing from 2016-17 to 2020-21 has been taken. Oil & Natural Gas Corporation Ltd (ONGC) (Public Sector) & Reliance Industries Ltd. (Private Sector) has been selected for the study. The profitability of the companies selected for the study has been analysed with the help of ratio analysis and various ratios have been calculated. Statistical tools such as average, standard deviation, and coefficient of variation have been used to interpret the data. The hypothesis has been tested by using a t-test.

HYPOTHESIS:

The present study is based on the following hypothesis:

H_0: There is no significant difference of profitability between Oil & Natural Gas Corporation Ltd (ONGC) & Reliance Industries Ltd.

H_1: There is a significant difference of profitability between Oil & Natural Gas Corporation Ltd (ONGC) & Reliance Industries Ltd.

ANALYSIS OF PROFITABILITY:

The profitability of the companies under study has been analysed by calculating the following ratios:

1. Net Profit Ratio:

The net profit ratio is also known as net profit margin and this ratio expresses the relationship of net profit to net sales (cash and credit) in terms of percentage. This ratio is calculated to find the profitability of the business. A high net profit ratio is a symbol of good management. The main objective of computing this ratio is to determine the efficiency with which production and/or purchase operations and selling operations are carried on. In the present study the net profit ratio has been calculated by using the following formula:

$$\textbf{Net profit ratio} = \frac{net\ profit}{net\ sales} \times 100$$

The net profit ratio of the companies under study has been shown in the following table:

Table 1:

Net Profit Ratio of the Refineries understudy from 2016-17 to 2020-21

(Ratio in %)

Years	ONGC	RELIANCE
2016 – 17	22.98	11.86
2017 – 18	23.46	11.01
2018 – 19	24.41	9.12
2019 – 20	17.23	9.37
2020 – 21	16.50	9.91
Avg.	**20.92**	**10.25**
S.D.	**3.74**	**1.16**
C.V. (%)	**14.01**	**1.33**

Source: Annual Reports and Accounts of the Companies understudy

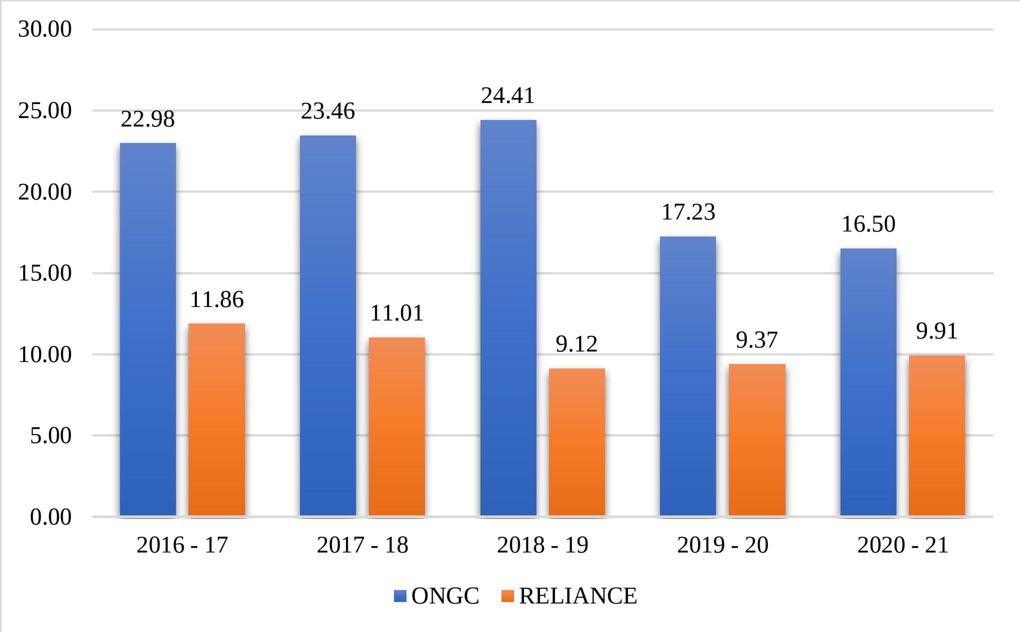

Figure 1: Net Profit Ratio of Petroleum Refineries

Interpretation:

It can be noted from the above table that the net profit ratio of ONGC showed a decreasing trend during the whole period of study because during the year 2016-17 the net profit ratio was 22.98 percent which constantly kept on decreasing and came down to 16.50 percent in 2020-21. The average net profit ratio was 20.92 percent which can be regarded as favourable but the decreasing trend of the ratio denotes inefficient management. The decreasing trend of the ratio was mainly because of an increase in the cost of goods sold. It can be suggested that the management of the refinery should try to control the cost of goods sold and increase the sales.

The above table also shows that the net profit ratio of Reliance showed a decreasing trend during the whole period of study and varied within the range of 11.86 percent in 2016-17 to 9.12 percent in 2018-19. The average ratio was 10.25 percent which shows a favorable position of the net profit ratio but the decreasing trend shows the inefficiency of the management and it is suggested that the management of the refinery should try to control the decreasing trend of the ratio by controlling the cost of goods sold and by increasing the sales.

Based on the average net profit ratio, it can be concluded that Reliance performed better though the net profit ratio showed a decreasing trend, however, the decrease in the net profit ratio was less than the decrease in the net profit ratio of ONGC. The fluctuations in the net profit ratio were high as the coefficient of variation was 14.01 percent which should be controlled while the coefficient of variation of net profit ratio for Tata Steel was 10.98 percent showing a moderate consistency in the ratio.

TEST OF HYPOTHESIS:

H_0: There is no significant difference between the net profit ratio among the selected petroleum refineries in India.

H_1: There is a significant difference in the net profit ratio among the selected petroleum refineries in India.

Table 2: t-Test for Net Profit margin

PARTICULAR	*ONGC*	*RELIANCE*
Mean	20.92	10.25
Variance	14.01	1.33
Observations	5.00	5.00
Df	4.00	
t Stat	6.79	

P(T<=t) one-tail	0.00	
t Critical one-tail	2.13	
P(T<=t) two-tail	0.00	
t Critical two-tail	2.78	

Decision:

The tabulated value of ‘t’ of 4 degrees of freedom at a 5% level of significance for two-tailed tests is 6.79 whereas ‘t’ calculated 2.78.

Since calculated ‘t’ was higher than tabulated ‘t’. The difference is highly significant and therefore H_1 had been accepted and H_0 had been not accepted. Hence there is a significant difference between the net profit ratio among the selected petroleum refineries in India.

2. Operating Profit Ratio

This ratio establishes the relationship between operating profit and net sales. The main objective of computing this ratio is to determine the operational efficiency of the management. This ratio is also called the operating profit margin. Operating profit means the net profit arising from the normal operations and activities of the business without taking into account extraneous transactions and expenses of a purely financial nature. The higher the operating ratio, the better would be the operational efficiency of the business. A higher operating profit ratio means that the business has been able not only to increase its sales but also been able to cut down its operating expenses. The operating profit ratio can be calculated by formula as follows:

$$\textbf{Operating Profit Ratio} = \frac{operating\ Profit}{net\ sales}\ X\ 100$$

Table 3:

Operating Profit Ratio of the Refineries understudy from 2016-17 to 2020-21

(Ratio in %)

Years	ONGC	RELIANCE
2016 – 17	49.58	19.61
2017 – 18	52.79	19.64
2018 – 19	52.87	17.56
2019 – 20	49.07	18.19
2020 – 21	51.28	17.32
Avg.	**51.12**	**18.46**
S.D.	**1.76**	**1.11**
C.V. (%)	**3.11**	**1.22**

Source: Annual Reports and Accounts of the Companies understudy

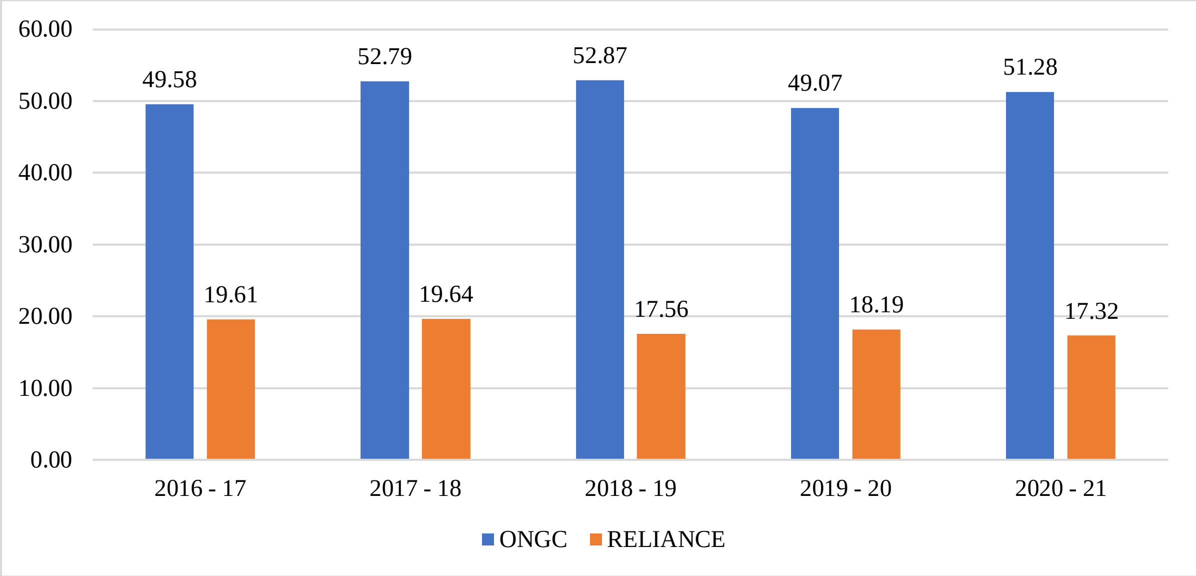

Figure 2: Operating Profit Ratio of Petroleum Refineries

Interpretation:

It can be noted from the above table that the operating profit ratio of ONGC showed a mixed fluctuating trend during the period of study and varied within the range of 52.87 percent in 2018-19 to 49.07 percent in 2019-20. The average ratio was 51.12 percent which can be regarded as satisfactory but the decreasing trend of the ratio should be controlled by the management of the company. For this purpose, efforts should be made to control and reduce the operating cost and increase sales.

For Reliance, the operating profit ratio also showed a mixed fluctuating trend during the period of study. Initially, during 2020-21 the operating profit ratio was 17.32 percent. 19.64 percent in 2017-18. The average ratio was 18.46 percent which can be regarded as good and denotes efficient management.

An overall study of operating profit ratio shows that ONGC has performed better than Reliance from the viewpoint of operating profit ratio because the average operating ratio for Reliance was 18.46 percent while for ONGC it was 51.12 percent. The coefficient of variation for ONGC was higher than that of RELIANCE denoting variability in the ratio.

TEST OF HYPOTHESIS:

H_0: There is no significant difference between the operating profit ratio among the selected petroleum refineries in India.

H_1: There is a significant difference in the operating profit ratio among the selected petroleum refineries in India.

Table 4: t-Test for Operating Profit margin

PARTICULAR	*ONGC*	*RELIANCE*
Mean	51.18	18.46
Variance	3.11	1.22
Observations	5	5
Df	4	
t Stat	33.19	
P(T<=t) one-tail	0.00	
t Critical one-tail	2.13	
P(T<=t) two-tail	0.00	
t Critical two-tail	2.78	

Decision:

The tabulated value of 't' of 4 degrees of freedom at a 5% level of significance for two-tailed tests is 33.19 whereas 't' calculated 2.78.

Since calculated 't' was higher than tabulated 't'. The difference is highly significant and therefore H_1 had been accepted and H_0 had been not accepted. Hence there is a significant difference between the operating profit ratio among the selected petroleum refineries in India.

3. Return on Capital Employed Ratio:

This ratio establishes the relationship between profit and capital employed and is calculated in percentage by dividing the net profit by capital employed. It is also a measure of earning power of the net assets of the business. It is calculated by formula as follow:

$$\textbf{Return on capital employed Ratio: } \frac{\text{net profit (PBIT)}}{\text{capital employed}} \times 100$$

The return on capital employed ratio of the companies under study has been shown in the following table:

Table 5:

Operating Profit Ratio of the Refineries understudy from 2016-17 to 2020-21

(Ratio in %)

Years	ONGC	RELIANCE
2016 – 17	13.54	11.45
2017 – 18	13.60	12.11
2018 – 19	17.41	11.58
2019 – 20	11.60	8.99
2020 – 21	7.26	9.91
Avg.	**12.68**	**10.81**
S.D.	**3.69**	**1.31**
C.V. (%)	**13.63**	**1.70**

Source: Annual Reports and Accounts of the Companies understudy

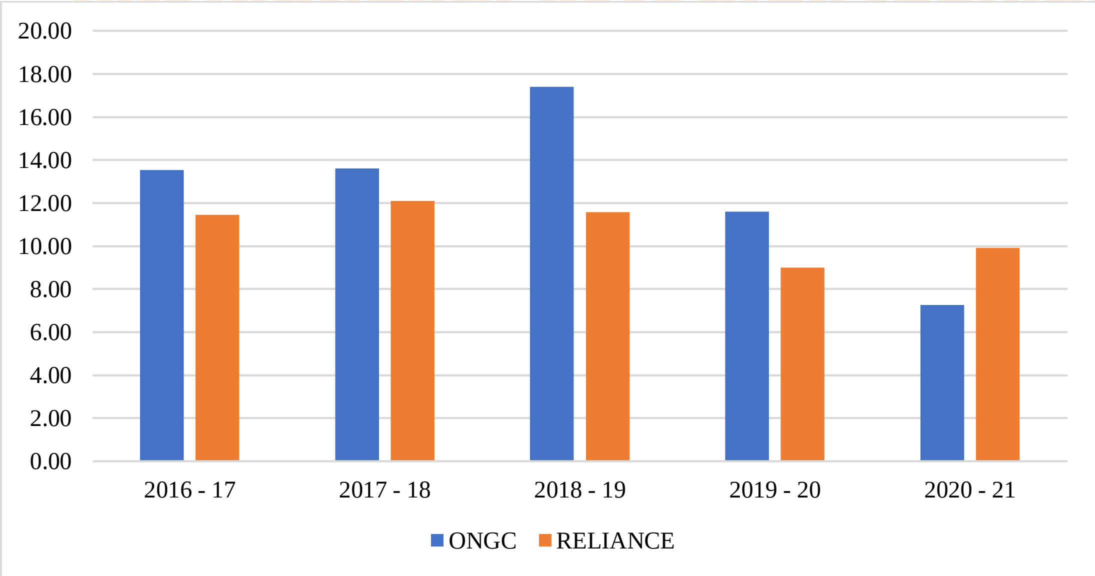

Figure 2: Return on Capital Employed ratio of Petroleum Refineries

Inference:

It can be noted from the above table that the return on capital employed ratio of RELIANCE showed a decreasing trend throughout the period under study. During 2017-18 the ratio was 12.11 percent which continuously kept on decreasing and came down to 8.99 percent in 2019-20 which shows the inefficiency of the management and signifies that the management of the company failed to make optimum utilization of the capital funds. Such a situation cannot be regarded as satisfactory. The average ratio was 10.81 percent which is though satisfactory but a decreasing trend of the ratio is a warning to the management. The fluctuations were also high as the coefficient of variation was 1.70 percent which should also be controlled.

For ONGC also the ratio of return on capital employed showed a decreasing trend during the whole period of study and varied within the range of 7.26 percent in 2020-21 to 17.41 percent in 2018-19. The average ratio was 12.68 percent which is though not poor but decreasing trend implies inefficient management. It is suggested that the management of the company should try to the ratio by increasing the profit. The coefficient of variation was 13.63 percent denoting a moderate fluctuating trend but the decreasing trend should be controlled by the management.

On the whole, it can be said that the return on capital employed position of ONGC was better than RELIANCE because the average of the ratio was higher but a decreasing trend in both the companies shows the inefficiency of the management which should be controlled.

TEST OF HYPOTHESIS:

H_0: There is no significant difference between the return on capital employed ratio among the selected petroleum refineries in India.

H_1: There is a significant difference in the return on capital employed ratio among the selected petroleum refineries in India.

Table 6: t-Test for Return on Capital Employed

PARTICULAR	*ONGC*	*RELIANCE*
Mean	12.68	10.81
Variance	13.63	1.70
Observations	5	5
Df	4	
t Stat	1.38	
P(T<=t) one-tail	0.12	
t Critical one-tail	2.13	
P(T<=t) two-tail	0.24	
t Critical two-tail	2.78	

Decision:

The tabulated value of 't' of 4 degrees of freedom at a 5% level of significance for two-tailed tests is 1.38 whereas 't' calculated 2.78.

Since calculated 't' was lower than tabulated 't'. The difference is not significant and therefore H_1 had been not accepted and H_0 had been accepted. Hence there is a no significant difference between the return on capital employed ratio among the selected petroleum refineries in India.

Conclusion:

(1) It is evident from the net profit ratio of Reliance showed a decreasing trend and so is the case with ONGC, which shows the inefficiency of the management, however, based on the average it can be concluded that Reliance performed better as the decrease is less than the decrease in the net profit ratio of ONGC.

Therefore, it is suggested that management of both the companies should increase the net profit ratio by controlling the expenses and by increasing revenue and try maintaining the same position in the future also.

(2) The operating profit ratio was lower in ONGC and it is suggested that the company should try to increase this ratio and also high fluctuation should be controlled by management.

On the other hand, the operating profit ratio was satisfactory in Reliance and it is suggested that the company should try maintaining this ratio. Therefore, it can be concluded that Reliance has performed better than ONGC from the viewpoint of this ratio as the coefficient of variation was higher for ONGC than Reliance denoting variability.

(3) Analysing the return on capital employed ratio it can be concluded that the return on capital employed position of ONGC was better than Reliance because the average of the ratio was higher but the decreasing trend in both the company implies inefficiency of the management and inefficient utilization of the capital funds.

References:

- Alicia Gazely & Michael Lambert, (2006), "Management Accounting" North America, Sage Publications
- Annual Reports and Accounts of oil and natural gas corporation from 2016-17 to 2020-21.
- Annual Reports and Accounts of Reliance Pvt Ltd from 2016-17 to 2020-21.
- Hingorani, N.L., Ramanthan A.R. and Grewal T.S. (2005), "Management Accounting" New Delhi, Prentice Hall of India.
- https://www.business-standard.com/company/o-n-g-c-6068/financials-ratios/2
- https://www.business-standard.com/company/reliance-industr-476/financials-ratios/1
- Khan, M. M., & Safiuddin, S. K. (2016). LIQUIDITY AND PROFITABILITY PERFORMANCE ANALYSIS OF SELECT PHARMACEUTICAL COMPANIES. *International Conference on Science, Technology and Management*, 294–304.
- Kothari C. R. (1997) *"Research Methodology –" – "Methods and Techniques"*. Wishwa Prakashan, New Delhi