



ANALYSIS OF LIQUIDITY IN SELECTED MAHARATHNA COMPANIES IN INDIA

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ABSTRACT

The liquidity refers to the maintenance of cash, bank balances and those assets which are easily convertible into cash in order to meet the liabilities as and when arising. So, the Liquidity Ratios study the firm's short-term solvency and its ability to pay off the liabilities. Efficient utilization of working capital both gross and net and its elements is also important to improve profitability. The present study is an attempt to analyse the liquidity and efficiency in utilizing working capital of the selected Maharathna Companies, i.e., SAIL, NTPC, ONGC, IOC and Coal India during 2012-13 to 2021-22. The data required for the study period has been collected from the annual reports of the selected units and calculated Current Ratio, Quick Ratio, Absolute Liquidity Ratio, Gross Working Capital Ratio, Net Working Capital Ratio, Current Assets to Total Assets Ratio, Inventory Turnover Ratio, Receivables Turnover Ratio during the study period.

Key Words

Liquidity, Gross Working Capital, Net Working Capital, Ratio Analysis, ANOVA

Finance is the life blood of any commercial organization irrespective of its type, size, nature, etc. the success of the business organization is evaluated through financial analysis only. The financial performance of the firm can be evaluated keeping in two important objectives in mind. The extent of surplus or profit generated by the firm when compared to the similar firms in the industry is the first aspect to be observed, which is known as profitability analysis and the second aspect is how far the firm is able to meet its current financial obligations without losing its creditworthiness, which is known as liquidity. The liquidity refers to the maintenance of cash, bank balances and those assets which are easily convertible into cash in order to meet the liabilities as and when arising. So, the Liquidity Ratios

study the firm's short-term solvency and its ability to pay off the liabilities. It should be intuitive to observe that a firm, no matter how profitable it is, cannot continue to exist unless it is able to meet its daily obligations as and when they arise. The day today problems of financial management consist of highly important task of finding sufficient cash to met current obligations. The short-term liquidity risk arises primarily from the need to finance current operations. To the extent that the firm has to make payments to its suppliers before it is paid for the goods and services it provides, a cash short fall has to be met, usually through the short-term borrowings. Although this financing of working capital needs is routinely done in most firms, the liquidity ratios have been devised to keep a track on the extent of the firm's exposure to the risk that it will not be able to meet its short-term obligations. Efficient utilization of working capital both gross and net and its elements is also important to improve profitability. The present study is an attempt to analyse the liquidity and efficiency in utilizing its working capital and its components of the selected Maharathna Companies. A brief review of literature is presented before proceeding the objectives of the study.

Review of Literature:

Since analysis of liquidity is one of the important aspect of financial research, several studies have been conducted by several researchers. It is indeed necessary to continuously conduct these studies as the problems and situations may change due to change in time and organization. Some of the studies mentioned here to have an idea of importance of the present study. Mr. Raju (2016) studied to test whether there is any significant difference between one variable to another variable and know the relationship in each other with a suitable suggestions to strengthen liquidity position of the automobile industry during 2002-03 to 2014-15 with the help of the statistical techniques of paired sample statistics, paired samples correlation and paired sample test and concluded that there was a significant difference from one variable to another variable within a pair regarding the current ratio as well as the quick ratio. Mr. Chandru and Ms. Padmapriya (2022) studied the liquidity and profitability position of selected automobile industry during 2011-12 to 2020-21 with the help of current ratio, quick ratio, absolute liquidity ratio, return on investment and concluded that there is positive relation between quick ratio and profitability, but negative relation between current ratio, absolute liquidity ratio and profitability in selected automobile industry. Mr. Rana and Dr. Dave (2022) conducted study on liquidity position in selected Indian Automobile Industry during 2011-12 to 2020-21 by using current ratio, liquid ratio and inventory turnover ratio. Data has been analysed with the help of several statistical techniques including ANOVA technique and concluded that liquidity position was very poor which is to be improved. Dr. Madhu and Prof. Raju (2013) has studied the liquidity and profitability in textile industry in India during 1999-2000 to 2010-11. They have analysed the liquidity, efficiency in working capital management and profitability in Cotton Textile Industry (CTI) and Man Made Textile Industry (MMTI) which are important components of textile industry in India. They have compared the performance of CTI and MMTI with the performance of All Industry Average and concluded that the liquidity, efficiency in working

capital management and profitability was poor. Das and Prof. Dhar (2018) have studied the impact of liquidity on profitability in cotton textile industry during 2005-06 to 2016-17 and concluded that there was large amount of funds were blocked in inventory which has impacted its profitability. Jagruti and Parmar (2022) have conducted study on Liquidity position in Ten FMCG Companies by using Current Ratio and Quick Ratio during 2007-08 to 2019-20. They have adopted ANOVA technique and concluded that there was a significant difference in liquidity position among the selected companies. Sengottaiyan and Nandhini (2016) analysed liquidity position in five selected companies of food processing industry during 2004-05 to 2013-14. They have analysed current ratio, quick ratio, absolute liquid ratio, debt equity ratio, proprietary ratio, fixed assets ratio of the selected units and also used statistical techniques like, mean, S.D., C.V., Range, Maximum, Minimum to draw meaningful conclusions. There are significant differences in liquidity position of selected companies.

Present Study:

Present study is an attempt to analyse the liquidity position and efficiency in utilizing working capital in selected Maharathna Central Public Sector Companies, i.e., SAIL, NTPC, ONGC, IOC and Coal India during 2012-13 to 2021-22. The specific objectives of the present study are;

Objectives of the Study:

Present study has made with the following objectives;

1. To analyse the liquidity position of the Selected Maharathna Companies during the study period.
2. To analyse the efficiency of management in utilizing the working capital and its components during the study period.

Data and Methodology of the study:

The data required for the study period has been collected from the annual reports of the selected units and calculated Current Ratio, Quick Ratio, Absolute Liquidity Ratio, Gross Working Capital Ratio, Net Working Capital Ratio, Current Assets to Total Assets Ratio, Inventory Turnover Ratio, Receivables Turnover Ratio during the study period. For the purpose of drawing conclusions, the individual company ratios were compared with the average ratio of all the selected units during the study period. Appropriate statistical techniques like, Mean, Standard Deviation and Analysis of Variance were also used to draw meaningful conclusions. Accordingly, total study has been divided into two sections. In the first section, short term liquidity in selected companies has been analysed and in the second section the efficiency in utilization of working capital and its components has been analysed.

Hypotheses of the study:

1. There is no difference between the liquidity position of selected individual units and the average of all the selected units.
2. There is no difference in efficiency of management of working capital and its components of the selected individual units and the average of all the selected units.

Results & Discussion:**A. LIQUIDITY ANALYSIS:**

Liquidity is one of the important factors in measuring the efficiency of financial management of the companies, failure of maintenance of which may leads to failure of the total business. The Liquidity Ratios provide a quick measure of liquidity of the firm by establishing a relationship between its current assets and its current liabilities. The liquidity ratios are also called the Balance Sheet ratios because the information required for the calculation of Liquidity Ratios is available in the Balance Sheet only. Hence, an attempt has been made to analyse the liquidity position of the selected units with the help of Current Ratio, Quick Ratio and Absolute Liquidity Ratio during the study period and presented below.

1. Current Ratio:

The Current Ratio, which is the ratio of total current assets to total current liabilities, is one of the important ratios used to measure the short-term liquidity of the company. The current assets represent those assets which can be converted into cash in the ordinary course of business within a short period of time, normally not exceeding one year and include cash and bank balances, marketable securities, inventory of raw materials, semi-finished goods and finished goods, debtors net of provision for bad and doubtful debts, bills receivables and prepaid expenses. The current liabilities are those liabilities which are short-term maturing obligations to be met within a year, consist of trade creditors, bills payable, bank credit, provision for taxation, dividends payable and outstanding expenses. The higher the current ratio, the more is the firm's ability to meet current obligations and the greater is the safety of funds of short-term creditors. Therefore, current ratio indicates the margin of safety to the creditors. Generally, 2:1 of current ratio is considered to be standard, but it may vary from industry to industry.

Table 1. Current Ratio in Maharathna Companies during the study period

(Figures in no. of times)

Year	IOC	SAIL	NTPC	ONGC	COAL India	Mean
2021-22	0.76	0.73	0.78	0.98	7.26	2.10
2020-21	0.73	0.68	0.82	0.86	8.39	2.30
2019-20	0.69	0.91	0.89	0.67	7.70	2.17
2018-19	0.81	0.77	0.76	0.60	2.64	1.12
2017-18	0.76	0.68	0.86	0.44	1.17	0.78
2016-17	0.72	0.55	0.79	1.55	2.77	1.28
2015-16	0.91	0.63	0.88	1.72	3.22	1.47
2014-15	0.98	0.85	1.22	1.57	3.53	1.63
2013-14	0.99	0.95	1.58	1.56	2.58	1.53
2012-13	1.02	1.20	1.81	1.75	2.28	1.61
Mean	0.84	0.80	1.04	1.17	4.16	1.60
Min	0.69	0.55	0.76	0.44	1.17	0.78
Max	1.02	1.20	1.81	1.75	8.39	2.30
Range	0.33	0.65	1.04	1.32	7.21	1.51
SD	0.12	0.18	0.35	0.49	2.46	0.46

Source: Calculated from Annual Reports of the selected companies.

The current ratio of Maharathna companies have been calculated during the study period and presented in table 1. From this table, it is clear that there was a lot of difference in the current ratio of selected companies during the study period. Except Coal India, all other companies did not have desired level of current ratio on an average, i.e., 2:1 during the study period and the average of current ratio of the selected individual units is less than the average of the selected all units during the study period. The remaining companies, IOC, SAIL, NTPC and ONGC has very low current ratio during the study period.

Table 1.1. Analysis of Variance of Current Ratio

Source of Variation	Df	Sum of Square	Mean Square	F	P
Between Groups	4	82.58	20.65	14.44	2.57
Within Groups	45	64.53	1.43		
Total	49	147.11			

The analysis of variance (Table 1.1) indicates that the calculated value of F (14.44) is greater than table value (2.57). So, there is significant difference between the average Current Ratios of the selected Maharathna Companies and our null hypothesis is rejected.

2. Quick Ratio:

Though the current ratio measures short-term financial solvency, it is a quantitative rather than a qualitative in nature. The quantitative nature refers to the fact that it takes into account the total current assets without making any distinction between various types of current assets such as cash, inventories and so on. That is why acid test ratio or quick ratio is useful in overcoming the limitation of the current ratio. The Quick Ratio is the ratio between quick current assets and current liabilities and is calculated by dividing the quick current assets, such as cash and bank balances, short-term marketable securities and debtors, by the current liabilities. The exclusion of inventory is based on the premises that it is not easily and readily convertible into cash immediately. Generally, quick ratio of 1:1 is considered to be satisfactory, but may vary from industry to industry.

Table 2. Quick Ratio in Maharathna Companies during the study period

(Figures in no. of times)

Year	IOC	SAIL	NTPC	ONGC	COAL India	Mean
2021-22	0.19	0.23	0.63	0.77	7.23	1.81
2020-21	0.21	0.34	0.66	0.63	8.39	2.05
2019-20	0.28	0.38	0.69	0.45	7.67	1.90
2018-19	0.34	0.31	0.62	0.44	2.60	0.86
2017-18	0.28	0.29	0.72	0.30	1.16	0.55
2016-17	0.24	0.21	0.61	1.23	2.72	1.00
2015-16	0.52	0.25	0.67	1.41	3.15	1.20
2014-15	0.50	0.36	0.98	1.26	3.50	1.32
2013-14	0.52	0.41	1.36	1.26	2.58	1.23
2012-13	0.56	0.49	1.63	1.42	2.28	1.28
Mean	0.36	0.33	0.86	0.92	4.13	1.32
Min	0.19	0.21	0.61	0.30	1.16	0.55
Max	0.56	0.49	1.63	1.42	8.39	2.05
Range	0.37	0.28	1.02	1.12	7.23	1.50
SD	0.15	0.09	0.36	0.44	2.60	0.47

Source: Calculated from Annual Reports of the selected companies.

Table 2 indicate that the average ratio of the all the selected companies during the study period was 1.32 times which is higher than the satisfactory level, i.e., 1:1. As far as individual companies are concerned, the quick ratio shows a declining trend among all selected companies and on an average the averages of individual companies is less than the all the selected companies average, except in Coal India. A least ratio could be observed in SAIL (0.33), IOC (0.36), as against moderate ratio in ONGC (0.92) and NTPC (0.86) and higher ratio than satisfactory level in Coal India (4.13) on average during the study period.

Table 2.1. Analysis of Variance of Quick Ratio

Source of Variation	df	Sum of Squares	Mean Square	F	P
Between Groups	4	101.71	25.43	17.91	2.57
Within Group	45	63.78	1.42		
Total	49	165.49			

From the above analysis of variance, it can be concluded that there is significant difference in mean value of quick ratios of selected Maharathna Companies, as the calculated value of F is greater than critical value.

3. Absolute Liquidity Ratio or Super quick ratio:

The absolute liquidity ratio or super-quick ratio or super acid-test ratio is another ratio used to measure the immediate liquidity position of the company and calculated by dividing the super-quick assets by the current liabilities. The super-quick assets are those assets which are made available immediately to payoff current liabilities, such as cash and bank balances and marketable securities. This ratio is the most rigorous and conservative test of a firm's liquidity measure also takes into account 'reserve borrowing power' as the firm's real debt paying ability depends not only on cash resources available with it but also on its capacity to borrow from the market at short notice.

Table 3. Absolute Liquidity Ratio in Maharathna Companies during the study period**(Figures in no. of times)**

Year	IOC	SAIL	NTPC	ONGC	COAL India	Mean
2021-22	0.09	0.11	0.27	0.44	7.23	1.63
2020-21	0.12	0.16	0.27	0.42	8.36	1.87
2019-20	0.19	0.19	0.41	0.34	7.66	1.76
2018-19	0.24	0.20	0.46	0.26	2.60	0.75
2017-18	0.20	0.20	0.54	0.14	1.16	0.45
2016-17	0.17	0.15	0.38	0.90	2.71	0.86
2015-16	0.44	0.16	0.43	1.10	3.15	1.06
2014-15	0.43	0.26	0.73	0.55	3.50	1.09
2013-14	0.43	0.22	1.16	0.83	2.57	1.04
2012-13	0.47	0.30	1.39	1.03	2.28	1.09
Mean	0.28	0.19	0.60	0.60	4.12	1.16
Min	0.09	0.11	0.27	0.14	1.16	0.45
Max	0.47	0.30	1.39	1.10	8.36	1.87
Range	0.38	0.19	1.12	0.96	7.20	1.42
SD	0.14	0.05	0.36	0.32	2.46	0.43

Source: Calculated from Annual Reports of the selected companies.

The Absolute liquidity ratio in Maharathna Companies during the study period has been presented in table 3. This ratio showed decreased trend in all the selected individual companies except in Coal India and the average ratio of Coal India (4.12 times) only was more than the average of all the selected units (1.16 times) and the average ratios of remaining selected individual companies (0.28 times in IOC, 0.19 times in SAIL, 0.60 times in NTPC and ONGC) were lower than the average of all the selected companies (1.16 times). Therefore, it can be concluded that there was a lot of difference in absolute liquidity ratio of the selected individual companies and average of the all the selected companies during the study period.

Table.3.1. Analysis of Variance of Absolute Liquidity Ratio

Source of Variation	Df	Sum of Squares	Mean Square	F	P
Between Groups	4	111.11	27.78	19.84	2.57
Within Groups	45	62.91	1.40		
Total	49	174.02			

From the above Analysis of variance table (3.1), it can be concluded that there is mean differences between the average ratios of Absolute Liquidity Ratios of Selected Maharathna Companies as the calculated value of F is greater than critical value.

4. Current Assets to Total Assets Ratio:

The Current Assets to Total Assets Ratio is a ratio which depicts the proportion of current assets in total assets of the company. Higher the ratio more the liquidity the company is having, but too much high proportion of current assets denotes blockage of funds more than required for the daily operations. More proportion of Current Assets to Total Assets may leads to lower profitability in the company. Hence, a moderate proportion of this ratio is advisable for any company.

Table 4. Current Assets to Total Assets Ratio in Maharathna Companies during the study period

(Figures in no. of times)

Year	IOC	SAIL	NTPC	ONGC	COAL India	Mean
2021-22	35.32	24.34	13.79	10.65	15.62	19.94
2020-21	32.87	26.38	13.85	9.98	18.68	20.35
2019-20	34.01	32.69	14.90	9.10	23.62	22.86
2018-19	39.03	27.69	14.49	9.42	10.39	20.20
2017-18	36.65	25.93	14.11	7.44	11.66	19.16
2016-17	35.66	23.97	12.00	12.10	19.17	20.58
2015-16	39.43	24.10	13.86	13.87	30.57	24.37
2014-15	42.22	29.71	18.95	14.50	36.96	28.47
2013-14	53.32	29.24	22.21	14.97	60.76	36.10
2012-13	57.55	32.16	25.33	17.18	68.00	40.04
Mean	40.60	27.62	16.35	11.92	29.54	25.21
Min	33.00	24.00	12.00	7.00	10.00	19.00
Max	58.00	32.00	25.00	17.00	68.00	40.00
Range	25.00	8.00	13.00	10.00	58.00	21.00
SD	0.08	0.03	0.04	0.03	0.19	0.07

Source: Calculated from Annual Reports of the selected companies.

The proportion of current assets in total assets in Maharathna companies has been presented in table 4. It can be observed from the table that nearly 25 percent of the total assets are in the form of current assets on an average in the all the selected companies during the study period. As far as individual companies are concerned, a lot of variations in averages of selected units (12 percent in ONGC, 16 percent in NTPC, 28 percent in SAIL, 30 percent in Coal India and 41 percent in IOC) could be observed during the study period. Therefore, it can be concluded that in three selected individual companies (IOC, Coal India and SAIL) have high ratio of current assets on an average and two companies (ONGC and NTPC) have lower average ratios when compared to the average of the all the selected companies during the study period.

Table 4.1. Analysis of Variance of Current Assets to Total Assets Ratio

Source of Variation	Df	Sum of Squares	Mean Square	F	P
Between groups	4	8597.59	2149.40	20.89	2.57
Within Groups	45	4629.21	102.87		
Total	49	13226.80			

There is a significant variation in mean values of current assets to total assets ratios of the selected Maharathna Companies, as the calculated value of F is greater than the critical value (table 4.1).

B. EFFICIENCY IN UTILISING WORKING CAPITAL AND ITS COMPONENTS:

The other aspect analysed in this study is measurement of efficiency in utilization of working capital during the study period. The efficiency in management of working capital was analysed by relating gross working capital and net working capital and its components with net sales of the selected units during the study period. Various Activity Ratios such as, Gross Working Capital Turnover Ratio, Net Working Capital Ratio, Inventory Turnover Ratio, Receivables Turnover Ratio in selected companies were calculated and compared with the average of the all the selected units during the study period.

5. Gross Working Capital Turnover Ratio:

The Gross Working Capital Turnover Ratio or Current Assets Turnover Ratio is calculated by dividing the net sales by current assets. This ratio indicates how much of sales are generated for every rupee of investment in current assets. Higher ratio indicates more efficiency in utilization of current assets and lower ratio indicates lower efficiency.

Table 5. Gross Working Capital Turnover Ratio in Maharathna Companies during the study period

(Figures in no. of times)

Year	IOC	SAIL	NTPC	ONGC	COAL India	Mean
2021-22	5.31	3.61	2.38	3.07	0.32	2.94
2020-21	4.69	2.26	2.09	2.14	0.15	2.27
2019-20	5.36	1.51	2.00	3.57	0.16	2.52
2018-19	4.94	2.08	2.14	3.88	0.47	2.70
2017-18	4.92	1.94	2.27	3.96	0.17	2.65
2016-17	4.82	1.74	2.76	2.60	0.09	2.40
2015-16	3.92	1.62	2.37	2.53	0.03	2.09
2014-15	4.71	1.54	1.96	2.75	0.05	2.20
2013-14	3.52	1.74	1.81	2.81	0.02	1.98
2012-13	3.41	1.64	1.61	2.71	0.02	1.88
Mean	4.56	1.97	2.14	3.00	0.15	2.36
Min	3.41	1.51	1.61	2.14	0.02	1.88
Max	5.36	3.61	2.76	3.96	0.47	2.94
Range	1.95	2.10	1.15	1.82	0.45	1.06
SD	0.66	0.59	0.31	0.58	0.14	0.32

Source: Calculated from Annual Reports of the selected companies.

The Gross Working Capital Turnover Ratio or Current Assets Turnover Ratio during the study period in selected Maharathna companies has been presented in table 5. It was clear from the table that the average ratios of IOC (4.56 times) and ONGC (3 times) are only higher than the average of all the selected companies (2.36 times) and lower in Coal India (0.15 times), SAIL (1.97 times) and NTPC (2.14 times) during the study period. But, an improvement in this

ratio was found in all individual companies during the study period. Therefore, it can be concluded that there is a need to improve further the performance of Coal India, SAIL and NTPC in this regard.

Table. 5.1. Analysis of Variance of Gross Working Capital Turnover Ratio

Source of Variation	df	Sum of Squares	Mean Square	F	P
Between groups	4	103.53	25.88	92.43	2.57
Within Groups	45	12.45	0.28		
Total	49	115.98			

There is a significant variation in average ratios of Gross Working Capital Turnover Ratios of selected Maharashtra Companies, as the calculated value of F is greater than critical value (table 5.1)

6. Net Working Capital Turnover Ratio:

The Net Working Capital Turnover Ratio or simply working capital turnover ratio studies the velocity of utilization of the working capital of the firm during a year. The net working capital efficiency in generating sales can be analysed with the help of this ratio. Higher the ratio lower is the investment in working capital and more efficiency in generating sales and vice versa. But too high ratio is result of overtrading by the company in relation to its net working capital, which is comparatively more risk.

Table 6. Net Working Capital Turnover Ratio in Maharashtra Companies during the study period

(Figures in no. of times)

Year	IOC	SAIL	NTPC	ONGC	COAL India	Mean
2021-22	-16.50	-9.71	-8.30	-163.50	0.37	-39.53
2020-21	-12.55	-4.76	-9.44	-13.49	0.17	-8.01
2019-20	-12.04	-15.19	-16.17	-7.08	0.18	-10.06
2018-19	-20.57	-7.15	-6.83	-5.93	0.76	-7.95
2017-18	-15.35	-4.17	-14.28	-3.05	1.16	-7.14
2016-17	-12.42	-2.14	-10.06	7.30	0.13	-3.44
2015-16	-39.58	-2.69	-17.20	6.03	0.04	-10.68
2014-15	-203.90	-8.82	10.70	7.54	0.07	-38.88
2013-14	-637.35	-32.22	4.94	7.79	0.03	-131.36
2012-13	145.36	9.70	3.61	6.32	0.03	33.00
Mean	-82.49	-7.71	-6.30	-15.81	0.29	-22.40
Min	-637.35	-32.22	-17.20	-163.50	0.03	-131.36
Max	145.36	9.70	4.94	7.79	1.16	33.00
Range	782.71	41.92	22.14	171.29	1.13	164.36
SD	200.95	10.21	9.06	49.76	0.36	40.99

Source: Calculated from Annual Reports of the selected companies.

Table 6 gives an overview on net working capital turnover ratio in Maharathna companies during the study period. It could be observed that except in Coal India, all individual companies have negative net working capital turnover ratio on an average during the study period due to negative net working capital. As a result, the average of all the selected companies was also negative during the study period. Therefore, it can be concluded that all the selected companies are trading on high risk which needs to improve.

Table 6.1. Analysis of Variance of Net Working Capital Turnover Ratio

Source of Variation	Df	Sum of Squares	Mean Square	F	P
Between groups	4	46489.79	11609.95	1.21	2.57
Within Groups	45	430446.00	9565.47		
Total	49	476885.79			

The table value of F (2.57) is less than the calculated value (1.21). therefore, it can be concluded that there is no significant difference between the average ratios of current assets to total assets in selected Maharathna Companies.

7. Inventory Turnover Ratio:

This ratio, also known as stock turnover ratio, establishes the relationship between the cost of goods sold and average inventory held during the year by the firm. However, instead of cost of goods sold and average inventory, net sales and closing stock may also be used to calculate this ratio. The latter approach is being adopted to calculate inventory turnover ratio in this study.

Table 7. Inventory Turnover Ratio in Maharathna Companies during the study period

(Figures in no. of times)

Year	IOC	SAIL	NTPC	ONGC	COAL India	Mean
2021-22	7.06	5.29	12.24	14.04	86.01	24.93
2020-21	6.59	4.53	10.81	8.04	640.25	134.04
2019-20	8.90	2.60	9.10	11.23	56.42	17.65
2018-19	8.48	3.44	11.31	14.23	30.46	13.58
2017-18	7.75	3.39	13.78	12.81	17.32	11.01
2016-17	7.16	2.83	12.03	12.64	4.55	7.84
2015-16	9.16	2.66	9.80	13.82	1.09	7.31
2014-15	9.61	2.65	9.83	13.90	6.64	8.52
2013-14	7.31	3.07	13.40	14.26	7.88	9.19
2012-13	7.54	2.78	16.20	14.55	22.49	12.71
Mean	7.96	3.32	11.85	12.95	87.31	24.68
Min	7.06	2.60	9.10	8.04	1.09	7.31
Max	9.61	5.29	16.20	14.55	640.25	134.04
Range	2.55	2.69	7.10	6.51	639.16	126.73
SD	0.96	0.86	2.06	1.90	186.05	36.81

Source: Calculated from Annual Reports of the selected companies.

The inventory turnover ratio in Maharashtra companies during the study period has been calculated and presented in table 7. The average ratio of Coal India (87.31 times) was only higher than that of the average of all the selected companies (24.68 times) and the averages of remaining selected companies (ONGC-12.95 times, NTPC-11.85 times, IOC-7.96 times and SAIL-3.32 times) were less than the average of all the selected companies during the study period. This indicates that there is a wide gap in the performance of selected companies in inventory turnover ratio during the study period. Therefore, it can be concluded that, except Coal India, all other companies need to be improved their performance in this regard.

Table 7.1. Analysis of Variance of Inventory Turnover Ratio

Source of Variation	Df	Sum of Squares	Mean Square	F	P
Between groups	4	49605.42	12401.36	1.61	2.57
Within Groups	45	346227.96	7693.95		
Total	49	395833.38			

From the above analysis of variance, it could be observed that the calculated value of F was less than the critical value. Therefore, it can be concluded that there is no significant difference between the averages of inventory turnover ratios of selected Maharashtra Companies.

8. Receivables Turnover Ratio:

The Receivables Turnover Ratio, which is the relation between net sales and receivables, helps in analysing the efficiency in generating net sales with a level of investment in receivables. Higher the receivables turnover ratio more the efficiency and higher liquidity and lower the ratio lower efficiency and lower liquidity.

Table 8. Receivables Turnover Ratio in Maharashtra Companies during the study period

(Figures in no. of times)

Year	IOC	SAIL	NTPC	ONGC	COAL India	Mean
2021-22	40.17	21.84	5.21	9.36	479.63	111.24
2020-21	38.48	8.49	4.32	8.74	53.40	22.69
2019-20	44.14	7.00	6.24	20.14	106.04	36.71
2018-19	39.20	14.90	10.71	12.99	3737.20	763.00
2017-18	50.06	14.87	11.01	10.94	1371.74	291.72
2016-17	52.39	15.21	9.62	12.03	24.43	22.74
2015-16	43.68	12.43	8.99	14.31	435.61	103.00
2014-15	64.74	12.75	9.63	6.10	39.66	26.58
2013-14	42.93	8.52	13.80	10.27	20.80	19.26
2012-13	39.72	10.04	12.25	12.09	238.01	62.42
Mean	45.55	12.61	9.18	11.70	650.65	145.94
Min	38.48	7.00	4.32	6.10	20.80	19.26
Max	64.74	21.84	13.80	20.14	3737.20	763.00
Range	26.26	14.84	9.48	14.04	3716.40	743.74

SD	7.75	4.17	2.91	3.58	1100.36	220.14
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Source: Calculated from Annual Reports of the selected companies.

Table 8 depicts the receivables turnover ratio in selected companies during the study period. The average receivables turnover ratio of the all the selected companies was 145.94 times during the study period. Only Coal India (650.65 times) could perform more than industry and the performance of remaining companies (45.55 times in IOC, 12.61 times in SAIL, 9.18 times in NTPC and 11.70 times in ONGC) were comparatively lower than the average of all the selected companies during the study period. Therefore, it can be concluded that the performance of selected companies is to be improved a lot, except in Coal India.

Table. 8.1. Analysis of Variance of Receivables Turnover Ratio

Source of Variation	df	Sum of Squares	Mean Square	F	P
Between groups	4	41515277.78	10378819.45	11.23	2.57
Within Groups	45	-41604665.34	-924548.12		
Total	49	-89387.57			

Since the calculated value of F (11.23) is more than the critical value (2.57) of F, there is a significant difference in mean values of Receivables Turnover Ratios of selected Navarathna Companies.

Conclusions:

From the above study, it can be concluded that;

1. The liquidity position, as depicted through Current Ratio, Quick Ratio, Absolute Liquidity Ratio and Current Assets to Total Assets Ratio, of the all selected companies is comparatively very poor, when compared to the mean of selected companies, except in Coal India Limited. There are also significant differences among the selected individual companies as par as liquidity is concerned.
2. As par as efficiency in utilization of working capital is concerned, the performance of only IOC, ONGC is good in Gross Working Capital Turnover, very poor in all selected companies as par as Net Working Capital Turnover Ratio is concerned, only Coal India performance is good as par as Inventory Turnover and Receivables Turnover Ratios are concerned.
3. Therefore, liquidity and efficiency in utilization of working capital of IOC, SAIL, NTPC, ONGC is to be improved by taking proper steps.

Limitations of the study:

Since, this is study conducted purely based on data available in Annual Reports of the concerned companies at the end of the financial year. There may be difference in performance and conclusions if you consider the other operational data. Moreover, the observations made by other researchers in same organisation may be different due to difference in period of study. As par as Coal India Ltd is concerned, income from operations, which was only around 10 percent of total income, is only considered as net sales. If income from other source is taken, the conclusions may be different. While calculating turnover ratios, closing balance of that element (Current Assets, Total Net Assets, Net Working Capital, Inventory, Receivables, etc.) only is taken.

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