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BIJU PATNAIK INSTITUTE OF IT & MANAGAMENT BHUBANESWAR

SUMMER INTERNSHIP PROJECT REPORT ON RATIO ANALYSIS OF

नालको NALCO

A Navratna Company

SUBMITTED BY:-

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MBA 2nd YEAR

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CORPORATE GUIDE

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PREFACE

I have made this report file on the topic Financial statement analysis; I have tried my best to elucidate all the relevant detail to the topic to be included in the report. While in the beginning I have tried to give a general view about this topic.

My efforts and wholehearted co-corporation of each and every one has ended on a successful note. I express my sincere gratitude to **Dr.CHINMAYA KUMAR ROUT, Assistant Prof. (Finance)** and **Mr.G.B Pradhan**, Manager (Finance), who assisting me throughout the preparation of this topic. I thank him for providing me the reinforcement, confidence and most importantly the track for the topic whenever I needed it.

ACKNOWLEDGMENT

In order to produce this report, I have put in extensive effort and study. This report would never have been possible without the consistent support and assistance of the people whom I approached during the various stages of writing this report. Firstly, I would like to express my heartfelt gratitude **to Dr. Chinmaya kumar Rout, Assistant Prof. (Finance),** for his valuable advice, encouragement, direction, and assistance. Writing this report would have been impossible without his guidance for being involved with me through my internship process and providing a lot of relevant documents and information that were vital in producing this report. He provided me with the data that was required for the completion of this report. I would extend my gratitude towards **Mr. G.B. Pradhan, Manager (Finance)**, for being a wonderful General Manager and my supervisor. He has helped me understand the organization better and gain more insight which was crucial in writing this report. And finally, I would like to thank all individuals in the organization who assisted and guided me in completion of this report.

CONTENTS

INTRODUCTION

The life blood of any business is finance. Existence and growth of a firm depends upon the financial position. Financial strength and weakness of a firm can be identified by proper establishing proper relationship between items of balance sheet and profit and loss account the balance sheet summarise the assets and liabilities and owners' equity of a business. The profit and loss account also summarize the income and expenses of the firm over a particular period of time. The analysis of financial statements is to obtain a better understand firm position and performance analysis is the process of selection establishment relation and evaluation. The analysis and interpretation are immense help in decision making and control.

Financial performance analysis and study on production system is so far the best to find out the actual performance of a company. This analysis carried out with the help of statistical, mathematical tools, practical methods, and procedures, which are based upon certain rules and strict principles. For this reason, the analysis is more reliable and acceptable.

This performance analysis is done on National Aluminium Company Limited with special emphasis on the production and sales activities. The company is one of the biggest profits making public sector in India.

Financial statement is the medium by which a company discloses the information concerning its financial performance. Followers of fundamentals analysis use the quantitative information gleaned from financial statement to make investment decision. Before we jump into the specific of the three most important financial statement are- income statement, balance sheet and cashflow statement – we will briefly introduce each financial statement's specific function, along with where they can find. It is the process of identifying financial strength and weakness of the firm by properly establishing relationship between the items of the balance sheet and profit and loss account. Horizontal, vertical and ratio analysis are three techniques analysts use when analysing financial statements.

BALANCE SHEET

The balance sheet is a report of a company's financial worth in the term of book value. It is broken into three parts to include a company's assets, liabilities and shareholders' equity. Short-term assets such as cash and accounts receivable can tell a lot about the company operational efficiency. Liabilities includes details on equity capital investment and retained earnings from periodic net income. The balance with assets minus liabilities equalling shareholder's equity. The resulting shareholders equity is considered a company's book value. This value is an important performance metric that increases or decreases with the financial activities of a company.

INCOME STATEMENTS

The income statements break down the revenue a company earns against the expenses involve in its business to provide a bottom line, net income profit and loss. The income statements is broken into three parts which help to analyse the business efficiency at three different points. It begins with revenue and the direct costs associated with revenue to identify gross profit. It then moves to operating profit which subtracts indirect expenses such as marketing costs, general costs and depreciation. Finally, it ends with net profit which deducts interest and taxes.

Basic analysis of the income statements usually involves the calculation of gross profit margin, operating profits and net profit margin which each divide profit by revenue. Profit margin helps to show where company costs are low or high at different points of the operation.

CASH FLOW STATEMENT

The cash flow statement provides an overview of the company's cashflows from operating activities, investing activities and financing activities. Net income is carried over to the cash flow statements where it is included as the top line items for operating activities. Like its title, investing activities include cash flow involves with firmwide investments. The financing activities section includes cashflow from both debt and equity financing. The bottom line shows how much cash a company has available.

CHANGES IN EQUITY

This report documents all changes in equity during the reporting period. These changes include issuance or purchase of shares, dividends issued and profit or losses. These documents are not usually including when the financial statement analysis is issued internally as the information it is not overly useful to the management team.

SCOPE OF THE STUDY

1. The data and information were collected from finance department of NALCO.
2. The scope is limited to the secondary data only.
3. The areas cover in the project is data collection is limited in annual report and discussion with internal guide.
4. The project is very useful to us, in case of understanding the performance management of NALCO.
5. In these projects I have computed the 5 years ratio which indicates how company performing and financial position of the company status.

OBJECTIVES OF THE STUDY

The study is for the partial fulfilment of project report for 2 years MBA under BPUT with following specific objective.

- **The main objective of the Project Report is to find the Financial position of the company through Ratio Analysis .**
- **To analyse & interpret the trends as revealed by various ratios of the company.**
- **To analyse the profitability & solvency position of the unit with the existing tools of financial analysis.**
- **To study the changes in the assets, liabilities structure of the company during the period of study.**

METHODOLOGY OF THE STUDY

DATA COLLECTION:

The design data for the study are basically secondary in nature and data are collected from the audited report of company.

1.Primary Data

Primary data are those data which is originally collected afresh. In the project, questionnaire method and interview method has been used for gathering required information.

2.Secondary Data

- Annual report of NALCO company.
- NALCO website

3. Data Entry & Analysis

1. Excel sheet
2. Graph

LIMITATION OF THE STUDY

1. The study was limited to only 5years financial data.
2. The study is purely based on secondary data which were taken primarily from published annual reports of NALCO Ltd.
3. There is no set of industries standard for comparison and hence the inference is made on general standard

4. The study is based on the past period.

OVERVIEW OF NALCO

Incorporated in 1981, as a public sector enterprise of the government of India, National Aluminium Company Ltd (NALCO) is Asia's largest integrated aluminium complex, comprising Bauxite mining, Alumina refining, Aluminium smelting and captive power operation, rail and port operation.

On the basis of sales, profit, assets and market capitalisation NALCO is one 48th Indian Companies which have figures Forbes's Global 2000 list. Among the Indian companies, NALCO has been ranked 32 while among the public sectors companies has achieved the position 11th position.

National Aluminium Company Ltd., the flagship PSU of the ministry of mines and India's largest manufacturer and export of alumina and aluminium, has been granted the Navratna status, according to an office memorandum related by the department of Public enterprises, Govt. of India.

Navratna status is conferred on select Central Public Sector Enterprises (CPSE), on becoming significant players in the economic development of the country. On achieving the status, certain powers are delegated to those CPSE's that had comparative advantage and capacity to become global giants.

NALCO has presently completed its 2nd phase expansion with an investment of more than RS 5000cr. At the same time, plans are there to set up smelter and power plant at Indonesia and South Africa by the company. Also, in India, there is plan to setup an alumina refinery at Andhra Pradesh a smelter plant at Jharsuguda of Odisha.

PROFILE OF NALCO

Consequent upon the sanction in November 1980 by the Govt. of India to establish the Odisha Aluminium Complex, NALCO was incorporated in 1981 as a Govt. Company to exploit the large deposit of Bauxite in East coast hills of a world leader in the field provided Panchapatmali, Koraput, Aluminium Pechiney of France, a world leader in the field provided the technology and the basic engineering for the Bauxite mining , Alumina Refinery and Smelter . The project cost of RS.2048cr was partly financed by RS 1119cr. equivalent of Euro Dollar loans extended by consortium of international banks and the balance RS 1289cr. through equity from

Govt. of India. After grant of expansion in 1998 the project cost is Rs 7180.58cr. Now further expansion going on for Rs 4091.5cr.

TECHNICAL ASSOCIATES & CONSULTANTS

The giant aluminium complex of NALCO in Odisha in the results of team efforts followings consulting organisation.

1.Aluminium Pechiney, France: For basic Engineering and Technology for Alumina and Aluminium.

2. Engineers India Ltd., New Delhi: For mines and all projects monitoring consultants.

3. D.C.P.L, Kolkata: Captive power plant.

4.H.I.P.L, New Delhi: Port facilities.

5. RITES New Delhi: Rail facilities.

6.Manpower

Out of total manpower strength of 6676 in 2017-18.

HISTORY OF THE NALCO

The report on the large deposit of high-quality bauxite ore in India has placed Odisha in the World of Bauxite map. These Bauxite deposits cover million tonnes content low silica, which decreases aluminium extraction cost. Taking into account all suitable location and favourable condition Govt. of India incorporated a fully Govt. owned Aluminium company named National Aluminium Company to exploit a part of its huge deposits. The Prime Minister late Mrs. Indra Gandhi laid the foundation of this project on March 21st 1981 at Damanjodi district of Koraput, Odisha. Aluminium Pechiney (A.P) of France, a world leader in the field provided the technology and basic engineering for bauxite mining. Aluminium industry is very much capital and power intensive both of which are scarce and expensive for country like India. The challenges of establishing Aluminium company for India never slipped back.

Around 46.5% of its investment i.e. 2408cr. came from external sources. For 1119cr. rupees NALCO signed agreement with 48 international banks in February 1981, the balance rupees 1989cr. came through equity from Govt. Of India. It is the first PSU which completed its project in due time, within a short of 4 years.

Foundation of the company - 1981

Started commissioning - 1985

Commencement of sale of metal – 1987

Commencement of Alumina export- 1988

Commencement of metal export – 1988

VARIOUS PRODUCTION AND SERVICE UNITS OF NALCO

BAUXITE MINES:

On Panchapatmali hills of Koraput district Odisha fully mechanized open cast mine of 2.0million tpa capacity is in operation since Nov,1985 and extended to 4.8million tpa since 2000-01, serving feedstock to alumina refinery at Damanjodi located on the foothills presently, the capacity is being expanded to 6.3million tpa which is already progress.

FEATURES:

- Areas of deposits: 16 sq. KM
- Ore quality: Alumina 45%, silica 2%
- Resources: 300 million
- Menology: over 90% gibbsitic
- Over burden: 3 meter (ave)
- Ore thickness: 14 meter (ave)

Transport 1800 tpa: 146k.m. long single flight multicurve cable belt conveyer.

ALUMINA REFINERY:

The 15,75000tpa alumina refinery having parallel streams of equal capacity, is located in the valley of Damanjodi in Koraput. The initial capacity was 800,000 tpa has been expanded during first phase expansion. In operation since Sept. 1986, the refinery is designed to provide alumina to the company's smelter at Angul. Export the balance alumina to overseas markets through Vishakhapatnam port. Presently the capacity is under further expansion (second phase expansion) to 21,00,000tpa.

FEATURES:

- Atmospheric pressure degradation process.
- Energy efficient fluidized coal mines.
- Pre- densification and inter-stage cooling for higher productivity.
- Co-generation of 3*18.5MW power by use of back pressure turbine in steam generation plant.
- Advanced red mud disposal system.

SMELTER PLANT:

The Bauxite a grain of 150mm reaches the refinery from the mines by means of a 6km long conveyers. The bauxite reception area send this to the secondary crushes where it crushed to gain size of 30mm. the crushers bauxite is then taken to a ball mill grinder where it is mixed with green liquor and ground to a ground of 60microns.

The restaurant slurry is then digested in digestion tank at atmospheric pressure using steam at 105 °C. The digested liquor is then pumped to sand separately.

Cyclones are there where unreacted coarse sand is separated. The resultant liquor is washed and diluted. Dilution reduces the coarse concentration after sand separation.

Desiccation tanks which follow next to remove the reactive silica from the aluminates liquor. Steam bundles at 105°C are used for this purpose. The liquor thus obtained is taken to the smelter tanks, where insoluble is separated, using flocculants.

The original capacity of 2,30,000tpa has been expanded to 3,45,000 tpa during first phase. Presently the capacity is being expanded to 4,60,000 tpa in second phase.

FEATURE:

- Advanced 180ka cell technology.
- Micro-Processor based pot regulation system.
- Treatment plant with dry-scrubbing system for pollution control and fluoride salt recovery.

- Integrated facility for manufacturing carbon anode, bus bars, anode stems etc with the acquisition and subsequent merger of inter-aluminium products limited with Nalco's the 50000pa export-oriented rolled product unit is all set to produce foil stock, fin stock, circles, coil stock, cable wraps standard sheets and coils.

CAPTIVE POWER PLANT:

The highly sophisticated NALCO's own power project is located at Angul just 2.kms away from smelter plant. Due to heavy power requirements of S&P, NALCO dedicated to establish a power generation unit. Extensive availability of raw materials and favourable conditions cheered to start the cost-effective own power project. The construction works of 720 MW capacity power plants started in 1987. The electricity generation through six generated turbines of 120 MW each has been increased to eight units with 960 MW during first phase expansion. The power plant is highly sophiscated: computer programmed and fully automated executive plant and Indian power giant BHEL built its power unit on turnkey basis.

The inputs for the power plant are coal and water. The requirement is met by Mahanadi Coal Field Ltd. from its Bharatpur unit in Talcher kept exclusively for NALCO. Clean water for the project is drawn from Brahmani through 7k.m run double circuit pipeline discharging 7200cub mtr/hr. of water.

Presently the capacity is being expanded to 1200mw during second phase expansion.

FEATURES:

- Microprocessor based burner management system for optimum thermal efficiency.
- Computer control data acquisition system for online monitoring.
- Automatic turbine runs up system.
- Specially designed barrel type high pressure turbine.
- Electrostatic precipitators with advance intelligent controlling.
- Wet disposal of ash.
- Certification: ISO 9002 & ISO 14001.

VISION OF NALCO:

"To be a company of global repute in Aluminium".

MISSION OF NALCO:

"To achieve growth in business with global competitive edge providing satisfaction to the customers, employees, shareholders and community at large".

OBJEVTIVE OF NALCO:

- To maximize capacity utilisation.
- To optimize operational efficiency and productivity.
- To maintain highest international standard of excellence in the product quality, cost efficiency and customer services.
- To have global presence and to earn foreign exchange.
- To maintain leadership in domestic market.
- To instil financial discipline at all levels for achieving cost and budgetary controls, optimizing, utilisation of working capital and effective cashflow management.
- To maximization return on investment.
- To develop a strong R&D base and increase business development activities.
- To promote a result oriented organizational ethos and work culture that empowers employees and helps realisation of individuals and organisational goals.
- To maximize internal customer satisfaction.
- To participate in peripheral development of the area.

NALCO STRATEGIES

- To attract committed personal personnel with growth potential and develop their skill and capabilities in congenial work and social environment through opportunity for training, recognition, career advancement and incentives
- To develop and nurture favourable attitudes among the employees and obtains their best contribution to the organisation by providing stable employment.
- Safe working condition, job satisfaction, reduce grievance and through good pay and welfare amenities commensurate with company to spend and government guidelines.

PRODUCTS OF NALCO

All with standard aluminium ingots and sows, which are registered with LONDON METAL EXCHANGE, the Nalco products enjoy world wide reputation on account of their quality, reliability in shipment, backed by high standard of customer services.

NALCO has different product line up:

ALUMINIUMMETAL

- Ingots
- Sows
- Billets
- Wire rods
- Alloys
- Cast strip

ALUMINA & HYDRATE

- Calcined alumina
- Alumina hydrate
- Zeolite a

Zeolite -a

SPECIAL PRODUCTS

- Special hydrate / alumina

DATA ANALYSIS AND FINDINGS

PROFIT AND LOSS ACCOUNT					
Particulars	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**
1.Revenue from operation	6,780.85	7382.81	7269.23	8050.02	9618.31
2.Other income	557.71	120.91	605.13	408.27	299.65
3.TOTAL (1+2)	**7,338.56**	**7503.72**	**7874.36**	**8458.29**	**9917.96**
4.Expenses					
(a) cost of material consumed	1,063.16	1031.59	1104.41	1181.79	1465.31

(b)cost of power and fuel consumed	2,017.67	1802.24	1864.61	2212.53	2747.92
(c)changes in inventories of finished goods and work in progress	58.55	_	-8.99	-96.59	47.43
(d)employee benefits expenses	1,245.33	1377.91	1398.33	1537.44	2261.2
(e) finance cost		_	3.27	2.69	1.95
(f)depriciation and amortisation expenses	524.73	413.66	426.12	480.36	480.4
(g) excise duty		508.72	452.27	506.98	108.86
(h) other expenses	1461.94	1462.15	1499.14	1628.22	1590.14
TOTAL EXPENSES(4)	**6,371.38**	**6596.27**	**6739.16**	**7453.42**	**8703.21**
5.Profit/ loss before expectional items and tax(3-4)(PBIT)	967.18	**907.45**	**1135.2**	**1004.87**	**1214.75**
6.Exceptional items	49.37	-148.42	-53.45	40.15	-824.08
7.Profit/loss before tax (5-6)(PBT)	**917.81**	**2433.78**	**1188.65**	**964.72**	**2038.83**
8.Tax expenes					
(a)current tax	264.65	263.6	366.93	219.52	793.18
(b) deffered tax	**7.15**	54.02	34.61	76.67	-96.76
Total tax	**271.8**	**317.62**	**401.54**	**296.19**	**696.42**
9.Profit /loss for the period(7-8)	**646.01**	**2116.16**	**787.11**	**668.53**	**1342.41**
10.Other comprehensive income					
A.Items that are not classified to profit/loss					
remeasurement gain/(loss)on defined benefits plans	_	_	41.06	13.88	52.66
B.Income tax relating to the items that will not reclassified to profit/loss		_	14.21	4.8	2.63
Other comprehensive income for period(net of tax 10)	_		**26.85**	**9.08**	**50.03**
11.Total comprehensive income for the period of(9+10)(comprising			**813.96**	**677.61**	**1392.44**

profit/loss)and other comprehensive income of the period					
12.Earning per equity share					
1.Basic (in rs)	2.49	5.13	3.05	2.98	6.94
2.Diluted (in rs)	2.49	5.13	3.05	2.98	6.94

BALANCE SHEET					
Particulars	**2016-2017**	**2017-2018**	**2018-2019**	**2019-2020**	**2020-2021**
ASSETS					
Non current assets					
1.Property,plant and equipment	6688.8	6588.65	6457.07	7018.63	7019.38
2.Capital work in progress	768.74	546.12	656.3	514.65	825.83
3.Intangible assets	103.14	136.21	138.61	125.8	120.08
4.Intangible assets under development	_	3.18	31.4	51.35	89.39
5.Financial assets					
(a) Investment	1.04	1.04	944.36	39.55	117.61
(b)Trade receivable	_	_	_	_	_
(c)Loans	1517.27	107.35	107.33	80.6	74.96
(d) Other finanacial assets	_	5.99	8.04	10.77	13.14
6.Other non current assets	43.32	885.49	1023.43	1004.51	739.51
TOTAL NON CURRENT ASSETS	**9122.31**	**999.87**	**9366.54**	**8845.86**	**8999.9**
Current assets					
1.Inventories	1173.66	1103.36	1055.01	1155.93	1194.08
2.Financial assets					
(a)Investment	1244	1021.06	66	1221.13	592.96
(b)Trade receivable	243.57	120.82	235.21	184.25	258.13
(c)Cash and cash equivalent	4048.29	3.68	654.42	24.83	25.35

(d) Bank balance other than © above		4797.3	4448.73	2262.4	2743.6
(e) Loans	481.38	38.61	30.2	36.7	29.29
(f) Other finanacial assets	_	156.51	156.74	156.49	152.55
3.Current tax assets	_	127.77	102.92	34.12	32.13
4.Other current assets	235.3	0	594.42	579.94	585.81
TOTAL CURRENT ASSETS	**7426.2**	**7369.11**	**7343.65**	**5655.79**	**5613.9**
TOTAL ASSETS	16548.51	16251.6	16710.19	14501.65	14613.9
EQUITY AND LIABILITIES					
1`.Equity					
(a) Equity share capital	1288.62	1288.62	1288.62	966.46	966.46
(b)Other equity	10833.83	11634.99	11906.13	9239.33	9538.35
TOTAL EQUITY	**12122.45**	**12923.61**	**13194.75**	**10205.79**	**10504.81**
NON CURRENT LIABILITIES					
1.Financial liabilities					
(a) Trade payable	_	19.82	16.3	19.61	15.63
(b) Other finanacial liabilities	54.96	3.07	1.58	2.36	2.85
2.Provision	218.22	325.48	301.12	328.11	436.09
3.Deffered tax liabilities	910.13	1115.29	1164.11	1245.48	1151.45
4.Other non current liabilities	_	42.42	50.38	48.27	62.04
TOTAL NON CURRENT LIABILITIES	**1183.31**	**1506.08**	**1533.49**	**1643.83**	**1668.06**
CURRENT LIABILITIES					
1.Financial liabilities					
(a) Borrowings	_	_	_	51.09	44.99
(b) Other finanacial liabilities	_	566.57	639.56	844.46	961.74
(c) Trade payable	531.12	475.27	402.35	469.1	512.87
2.Other current liabilities	2564.38	87.31	87.15	1170.21	545.45
3.Provision	147.25	692.76	852.89	117.07	375.88
TOTAL CURRENT LIABILITIES	**3242.75**	**1821.91**	**1981.95**	**2651.93**	**2440.93**

TOTAL LIABILITIES	**4426.06**	**3327.99**	**3515.44**	**4295.76**	**4108.99**
TOTAL EQUITY AND LIABILITIES	16548.51	16251.6	16710.19	14501.55	14613.8

ADITIONAL INFORMATION:					
1.Prepaid expenses	3.71	3.89	41.35	32.12	55.88
2.Marketable securities		1021.06	66	1221.13	592.96
3.Net sales	6649	7261.9	6704.31	7426.01	9326.26
4.Cashflow from operation	1340.93	876.57	1240.59	1654.37	1949.04
5.Cost of goods sold	6299.27	6036.38	6709.07	7422.9	8673.1
6.Average inventory	1277.15	1169.61	1079.185	1105.47	1175.065
7.Average working capital	2773.6	2680.85	1501.93	1501.93	1586.4
8.Gross profit	349.73	1225.52	-4.76	3.11	653.16
9.Opearting expenses	114.88	84.6	101.37	125.77	138.06
10.Operating profit	463.13	1173.35	96.21	128.88	791.22
11.Market share per value	34.5	39.72	47.02	42.87	72.07
12.Earning per share	21.53	70.53	26.23	22.28	44.74
13.Net credit sales	3080.83	2833.83	2969.02	3394.32	4213.23
14.Account payable	513.12	455.56	676.5	553.1	527.66

1	**Current Ratio**	**2.290**	**4.045**	**3.705**	**1.317**	**2**
	=current assets/current liabilities					

2	**Quick Ratio**	**1.929**	**3.441**	**3.194**	**1.709**		**1**
	= total current assets - inventory+prepaid expenses/current liability						
3	**Net working capital**	**4183**	**5547**	**5362**	**3004**		
	=current assets-current liabilities						
4	**Super quick ratio**	**1.248**	**0.562**	**0.363**	**0.470**		**0**
	=cash+marketable securities/current liabilities						
5	**Cashflow from operation ratio**	**0.414**	**0.481**	**0.626**	**0.624**		**0**
	=cashflow from operation/current liabilities						
6	**Debt to equity ratio**	**0.365**	**0.258**	**0.266**	**0.421**		**0**
	=total liability/total equity						
7	**Debt to assets ratio**	**0.267**	**0.205**	**0.210**	**0.296**		**0**
	=total liability / total assets						
8	**Propriotary ratio**	**73.254**	**79.522**	**78.962**	**70.377**		**71**
	=stockholders equity/total assets *100						
9	**Fixed asset ratio**	**0.994**	**1.102**	**1.038**	**1.058**		**1**
	=net sales /net fixed assets						
10	**Interest coverage ratio**	**NOT APPLICABLE**	**NOT APPLICABLE**	**NOT APPLICABLE**	**NOT APPLICABLE**	**NOT APPLICA**	
	=EBIT /Interest of long term debt						
11	**Inventory turnover Ratio**	**4.932**	**5.161**	**6.217**	**6.715**		**7**

	=cost of goods sold /average inventory					
12	**Debtors turnover ratio**	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICA
	=net credit sales / average account receivable					
13	**Creditors turnover ratio**	**6.004**	**6.221**	**4.389**	**6.137**	**7**
	=Net credit purchases /average account payable					
14	**Working capital turnover ratio**	**2.397**	**2.709**	**4.464**	**4.944**	**5**
	=net annual sales/average working capital					
15	**Gross profit ratio**	**5.260**	**16.876**	**-0.071**	**0.042**	**7**
	=gross profit /net sales*100					
16	**Net profit ratio**	**9.716**	**29.141**	**11.740**	**9.003**	**14**
	=net profit after tax/net sales					
17	**Operating profit ratio**	**0.063**	**0.156**	**0.012**	**0.015**	**0**
	=operating ratio/total revenue					
18	**Operating ratio**	**1.728**	**1.165**	**1.512**	**1.694**	**1**
	=operating expenses /net sales*100					
19	**Return on investment capital /return on capital**	**0.519**	**2.073**	**11.926**	**0.547**	**2**
	=net profit /total investment *100					
20	**Price earning ratio**	**1.602415235**	**0.563164611**	**1.792603889**	**1.924147217**	**1.61086**

	=market value per share/earning per share				

Ratio Analysis:

What Is Ratio Analysis?

Ratio analysis is a quantitative method of gaining insight into a company's liquidity, operational efficiency, and profitability by comparing information contained in its financial statements. Ratio analysis is a cornerstone of fundamental analysis.

Ratio analysis can be used to establish a trend line for one company's results over a large number of financial reporting periods. This can highlight company changes that would not be evident if looking at a given ratio that represents just one point in time. Comparing a company to its peers or its industry averages is another useful application for ratio analysis. Calculating one ratio for competitors in a given industry and comparing across the set of companies can reveal both positive and negative information. Since companies in the same industry typically have similar capital structures and investment in fixed assets, their ratios should be substantially the same. Different ratio results could mean that one firm has a potential issue and is underperforming the competition, but they could also mean that a certain company is much better at generating profits than its peers. Many analysts use ratios to review sectors, looking for the most and least valuable companies in the group.

1. LIQUIDITY RATIOS

It is essential for a firm to be able to meet its obligations as they become due. Liquidity Ratios help in establishing a relationship between cast and other current assets to current obligations to provide a quick measure of liquidity. A firm should ensure that it does not suffer from lack of liquidity and also that it does not have excess liquidity. A very high degree of liquidity is also bad, idle assets earn nothing. The firm's funds will be unnecessarily tied up in current assets. Therefore, it is necessary to strike a proper balance between high liquidity. Liquidity ratios can be divided into three types:

- Current Ratio
- Quick Ratio

Current Ratio :-Current ratio is an acceptable measure of firm’s short-term solvency Current assets includes cash within a year, such as marketable securities, debtors and inventors. Prepaid expenses are also included in current assets as they represent the payments that will not made by the firm in future. All obligations maturing within a year are included in current liabilities. These include creditors, bills payable, accrued expenses, short-term bank loan, income-tax liability in the current year.

The current ratio is a measure of the firm's short-term solvency. It indicated the availability of current assets in rupees for every one rupee of current liability. A current ratio of 2:1 is considered satisfactory. The higher the current ratio, the greater the margin of safety; the larger the amount of current assets in relation to current liabilities, the more the firm's ability to meet its obligations. It is a cured -and -quick measure of the firm's liquidity.

The current ratio is a liquidity ratio that measures a company's ability to pay short-term and long-term obligations. To gauge this ability, the current ratio considers the current total assets of a company (both liquid and illiquid) relative to that company's current total liabilities.

To get the current ratio, the current assets of a company is divided by its current liabilities. Current assets include non-liquid assets like inventory, while current liabilities are short-term liabilities and immediate payables.

Current Ratio = Current Assets / Current Liabilities

Quick Ratio:

Quick ratio is also known as acid test ratio. It indicates immediate ability of a company to pay off its current obligations. And also shows the solvency and financial soundness of the business. Greater the ratio stronger the financial position of the company.

Quick Ratio establishes a relationship between quick or liquid assets and current liabilities. An asset is liquid if it can be converted into cash immediately or reasonably soon without a loss of value. Cash is the most liquid asset, other assets that are considered to be relatively liquid asset and included in quick assets are debtors and bills receivables and marketable securities (temporary quoted investments). Inventories are converted to be liquid. Inventories normally require some time for realizing into cash; their value also has a tendency to fluctuate.

The quick ratio is an indicator of a company's short-term liquidity measures a company's ability to meet its short-term obligations with its most liquid assets. Because we're only concerned with the most liquid assets, the ratio excludes inventories from current assets. Quick ratio is calculated as follows: -

Quick ratio = (current assets – inventories) / current liabilities **OR**
Quick ratio = (cash and equivalents + marketable securities + accounts receivable) / current liabilities

2. LEVERAGE RATIOS:

Financial leverage refers to the use of debt finance while debt capital is a cheaper source of finance: it is also a riskier source of finance. It helps in assessing the risk arising from the use of debt capital. Structural Ratios are based on the proportions of debt and equity in the financial structure of firm. Leverage ratios assess the long-term financial viability of a business i.e. its ability to pay off its long-term obligations such as bank loans, bonds payable, etc. Information about solvency is critical for banks, employees, owners, bondholders, institutional investors, government, etc. Key solvency ratios are:

- Debt to equity ratio
- Debt to asset ratio
- Proprietary ratio
- Fixed asset ratio

3. ACTIVITY RATIOS :

Turnover ratios also referred to as activity ratios or asset management ratios, measure how efficiently the assets are employed by a firm. These ratios are based on the relationship between the level of activity, represented by sales or cost of goods sold and levels of various assets. The improvement turnover ratios are inventory turnover, average collection period, receivable turn over, fixed assets turnover and total assets turnover.

Activity ratios are employed to evaluate the efficiency with which the firm manages and utilize its assets. These ratios are also called turnover ratios because they indicate the speed with which assets are being converted or turned over into sales. Activity ratios thus involve a relationship between sales and assets. A proper balance between sales and assets generally reflects that asset utilization.

Activity ratios assess the efficiency of operations of a business. For example, these ratios attempt to find out how effectively the business is converting inventories into sales and sales into cash, or how it is utilizing its fixed assets and working capital, etc. Key activity ratios are: -

- Inventory turnover ratio
- Payables turnover ratio
- Trade receivable ratio
- Working capital turnover ratio

4. PROFITABILITY RATIOS:

A company should earn profits to survive and grow over a long period of time. Profits are essential but it would be wrong to assume that every action initiated by management of a company should be aimed at maximizing profits. Profit is the difference between revenues and expenses over a period of time. The primary objectives of business undertakings are to earn profits. Because profit is the engine, that drives the business enterprise. It measures the overall efficiency of the business. It indicates whether utilization of business assets and funds are done efficiently and best way or not, so as to generate adequate profits or returns.

Profitability ratios measure the ability of a business to earn profit for its owners. While liquidity ratios and solvency ratios explain the financial position of a business, profitability ratios and efficiency ratios communicate the financial performance of a business. Important profitability ratios include:

- Net profit ratio
- Gross profit ratio
- Operating profit ratio
- Operating ratio
- Return on investment
- Price earnings ratio

<u>DATA ANALYSIS AND INTERPRETATION</u>

LIQUIDITY RATIOS

- **CURRENT RATIO**

YEAR	TOTAL CURRENT LIABILITIES (IN CRORES)	TOTAL CURRENT ASSETS (IN CRORES)	CURRENT RATIO
2020-21	2440.93	5613.9	2.30
2019-20	2651.93	5655.79	1.31
2018-19	1981.95	7343.65	3.70
2017-18	1821.91	7369.11	4.04
2016-17	3242.75	7426.2	2.29

To get the current ratio, the current assets of a company is divided by its current liabilities. Current assets include non-liquid assets like inventory, while current liabilities are short-term liabilities and immediate payables.

Current Ratio =Current Assets / Current Liabilities

INTERPRETATION:

From the above analysis we know that the company's current ratio is in a good position it increase year to year. From 2016-17 to 2017-18 it increases in a good manner. As we see from the table, current ratio is more than 2 in the year 2017-18 and 2018-19.

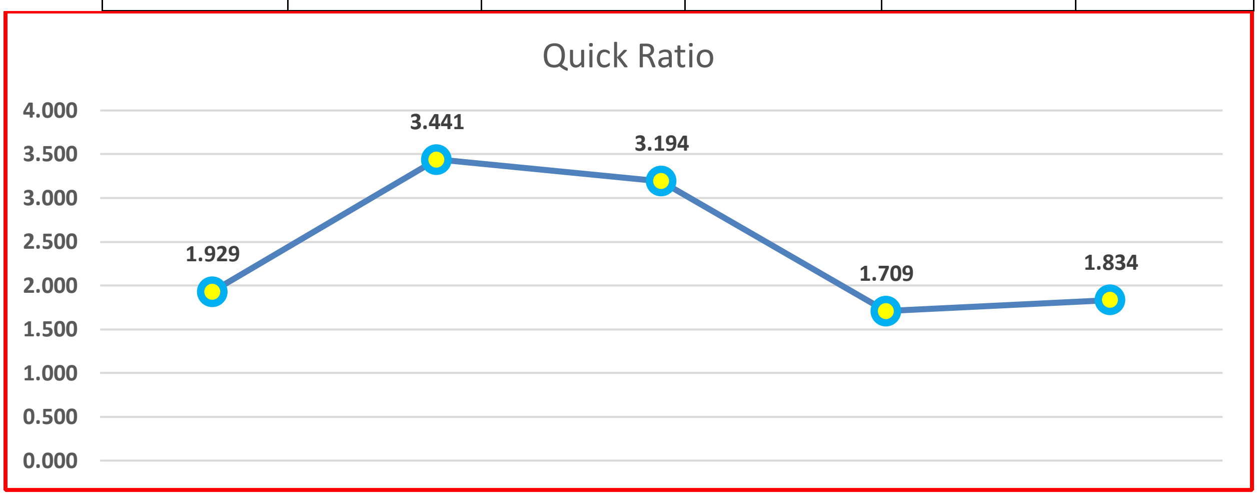
The increase in current ratio is partly a result of the increase in debtor balance. In the year 2018-19, it is very much satisfactory but in the year 2017-18 it is excessively high because high in cash and bank balance and comparatively less liability in that year. The current ratio is decreasing in 2018-19 and then increasing in 2018-19 from 1.31 to 2.3. Then it has increased to 2.9, 3.70 and 4.04 during the year 2018-19, 17-18 and 16-17 respectively. It is an indication that the company is liquid ad can meet its short term obligation.

Quick Ratio

The quick ratio is an indicator of a company's short-term liquidity and measures a company's ability to meet its short-term obligations with its most liquid assets. Because we're only concerned with the most liquid assets, the ratio excludes inventories from current assets. Quick ratio is calculated as follows: -

Quick Asset Ratio=Total assets-inventory+prepaid expenses/ Total liabilities

YEAR	Current asset	Inventory	Prepaid expenses	Current liability	Ratio
2016-17	7426.2	1173.66	3.71	4426.06	1.92
2017-18	7369.11	1103.36	3.89	1821.91	3.44
2018-19	7343.65	1055.01	41.35	1981.95	3.19
2019-20	5655.79	1155.93	32.12	2651.93	1.70
2020-21	5613.9	1194.08	55.88	2440.93	1.83



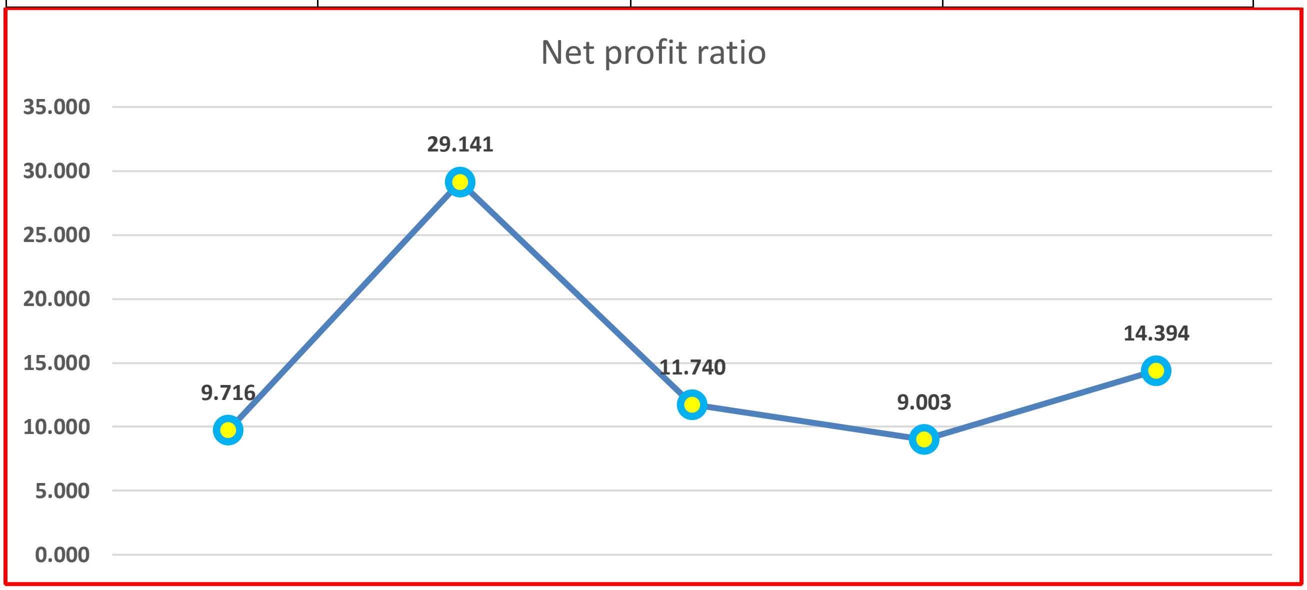
PROFITABILITY RATIOS:

- **NET PROFIT RATIO**

  This ratio is also known as "the net profit to sales ratio" or "net profit margin" and expresses the rate of the net profit for every unit of revenue. The ratio is calculated by dividing net profit by net sales for the concerned period. It can be expressed as:

Net Profit Ratio = Net Profit / Net Sales *100

YEAR	Net Profit After Tax	Net Sales	Ratio
2016-17	646.01	6648.8	9.71
2017-18	2116.16	7261.9	29.14
2018-19	787.11	6704.31	11.74
2019-20	668.53	7426.01	9.0
2020-21	1342.41	9326.26	14.39



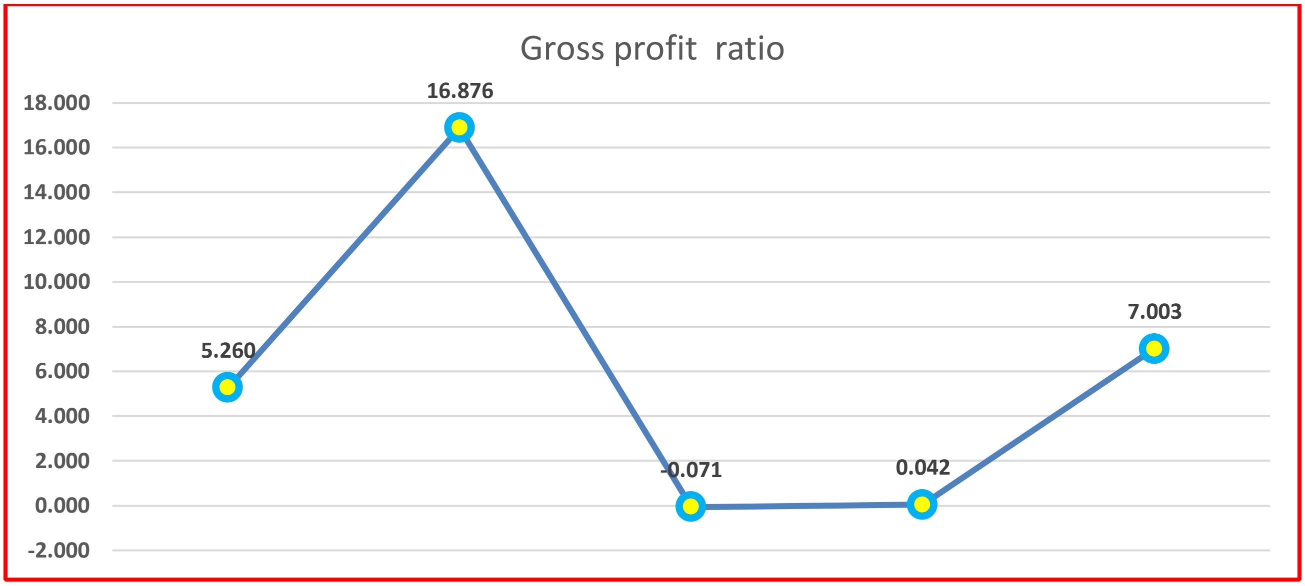
GROSS PROFIT RATIO:

This ratio is also known as gross margin ratio or trading margin ratio. This ratio is generally expressed in percentage and shows the relationship between the net sales and gross profit.

Gross Profit Ratio= Gross Profit / Net Sales*100

YEAR	GROSS PROFIT	NET SALES	RATIOS
2016-17	349.73	6649	5.26
2017-18	1225.52	7261.9	16.87
2018-19	-4.76	6704.31	-0.07

2019-20	3.11	7426.01	0.04
2020-21	656.16	9326.26	7.003



INTERPRETATION:

Gross profit in the year 2017-18 is maximum as compared to other years so, it reflects the efficiency with which a firm produces its products. It is a good sign that gross profits increasing year to year. Gross profit because of increasing net sales from the table it shows that gross profit percentage 2017-18 and lowest in the 2018-19 i.e. -0.07.

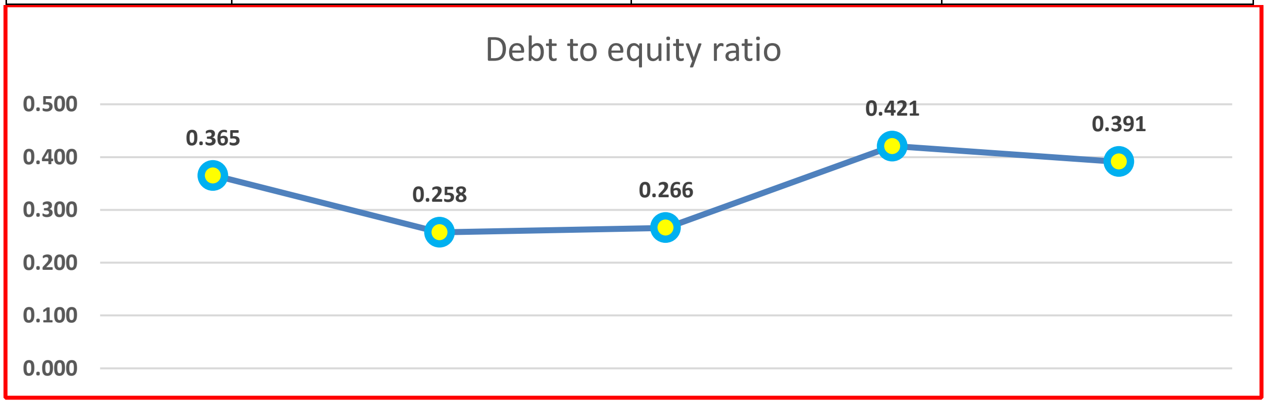
DEBT EQUITY RATIO

This ratio is also known as external and internal equity ratio. This ratio is used to determine the efficiency of the firm long financial long term planning. It also compares the stake held by the insider as well as the outsider. This ratio shows the relationship between equity funding and debt funding.

Debt Equity Ratio= Total long-term debt /shareholders funds

YEAR	TOTAL LIABILITIES	TOTAL ASSETS	RATIOS
2016-17	16548.51	4426.06	0.36

2017-18	16251.6	3327.99	0.25
2018-19	16710.19	3615.44	0.26
2019-20	14501.65	4295.76	0.42
2020-21	14613.9	4108.99	0.39



INTERPREATION:

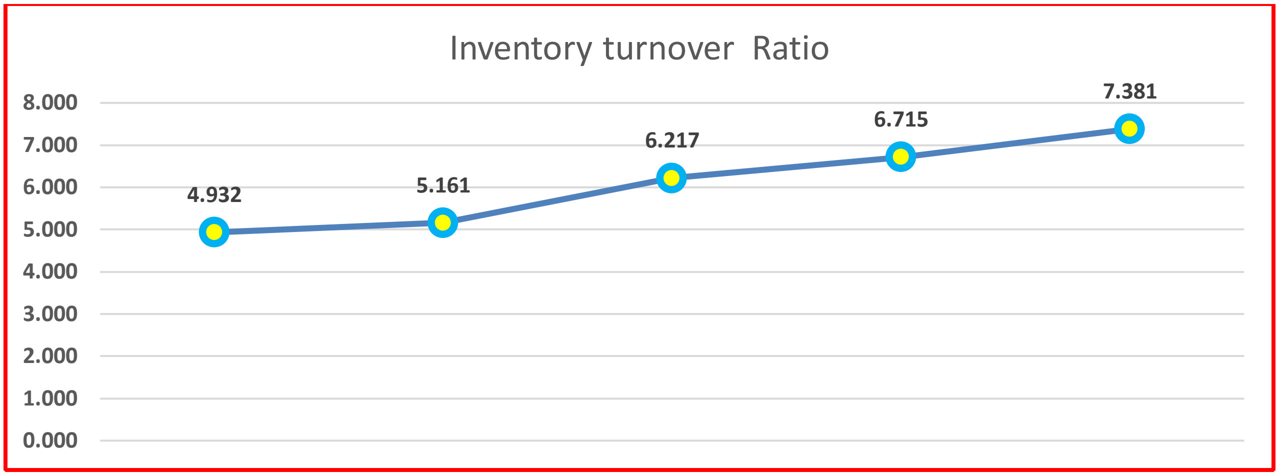
In the year 2018-19 the ratio is highest i.e. 0.42 and lowest in the year 2017-18 i.e. 0.25. High debt equity ratio shows that business is making more use of debt funds and thus is aggressive in its financing decisions.

STOCK TURNOVER RATIO:

This ratio is also known as inventory turnover ratio. It shows the relationship between costs of goods sold and average inventory.

Stock Turnover Ratio= Cost of goods sold / average inventory

YEAR	COGS	AVG.INVENTORY	RATIOS
2016-17	6299.27	1277.15	4.93
2017-18	6036.38	1169.61	5.16
2018-19	6709.07	1079.18	6.21
2019-20	7422.9	1105.47	6.71
2020-21	8673.1	1175.06	7.38



INTERPRETATION:

The stock turnover ratio reflects the efficiency of inventory management. It has taken remedial to increase its stock turnover ratio from 2016-17 i.e. 4.93 to 7.38 in 2018-19. So as to keep its production intact.

WORKING CAPITAL TURNOVER RATIO:

Working capital of a concern is directly related to sales. The current assets like debtors, bills receivable, cash and stock etc. change with the increase or decrease in sales.

Working capital turnover ratio indicates the velocity of the utilization of net working capital. This ratio indicates the number of times the working capital is turned over in the course of a year.

Working Capital Turnover = Net Annual Sales/ Average Capital

YEAR	NET ANNUAL SALES	AVERAGE WORKING CAPITAL	RATIO
2016-17	6649	2773.6	2.39
2017-18	7261.9	2680.85	2.70
2018-19	6704.31	1501.93	4.46

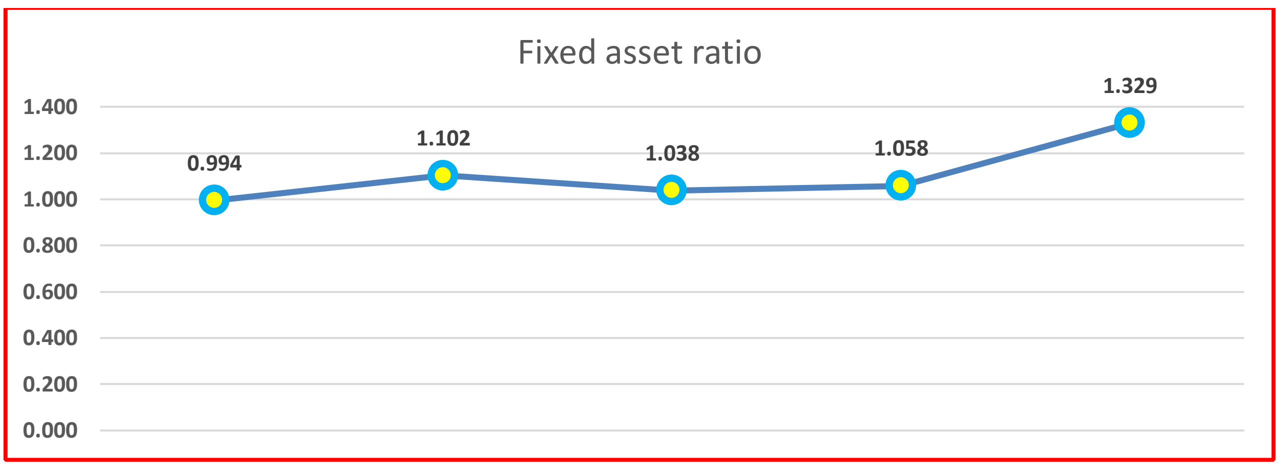
2019-20	7426.01	1501.93	4.94
2020-21	9326.26	1586.4	5.87

FIXED ASSET RATIO

This ratio measures sales per rupees of investment in the fixed assets. The liability of a company is judged from volume of sales generated from a given investment in fixed assets. This ratio measures the efficiency of sales with which fixed asset are employed. A high ratio indicates a high degree of efficiency of management in asset utilization and low ratio reflects inefficient use of asset.

Fixed asset ratio=Net sales/ net fixed assets

YEAR	Net sales	Net fixed asset	Ratio
2016-17	6649	6688.8	0.99
2017-18	7261.9	6588.65	1.10
2018-19	6704.31	6457.04	1.03
2019-20	7426.01	7018.63	1.05
2020-21	9626.26	7019.38	1.32



Summary :

Financial Ratio Analysis also referred to as 'Quantitative Analysis' is considered to be the most important step while analysing a company from an investment perspective. It is a study of ratios between various items in financial statements. Ratios are classified as profitability ratios, liquidity ratios, asset utilization ratios, leverage ratios and valuation ratios based on the indications they provide. Balance sheet, Income Statement and Cash Flow Statements are the most important financial statements and if properly analysed and interpreted can provide valuable insights into a company's business.

While massive amount of numbers in a financial statement may be bewildering and intimidating to a layman investor, Financial Ratio Analysis enables him to understand these numbers in an organized fashion. The most important assumption the analyst should make sure while drawing conclusions based on financial ratios is that the accounting policy of the company has remained constant over the period of review. Changes in accounting policies may distort the indications provided by the ratios. For example, companies that intend to enhance their asset return ratios may change the depreciation accounting method applied; thus providing misleading asset return ratios.

Nonrecurring items and extraordinary expense or income items must be excluded for meaningful analysis. Similarly, wide fluctuations in revenue figure or expense figure should be justified. Here the importance of Note to financial statements cannot be overemphasized. Information provided in these notes to financial statements can be very helpful in avoiding inappropriate investment decisions due to misleading financial ratios.

Conclusion:

Ratios are just one number divided by another and as such really don't mean much. The trick is in the way ratios are analysed and used by the decision maker. A good strategy is to compare the ratios to some sort of benchmark, such as industry averages or to what a company has done in the past, or both. Once ratios are calculated, an analyst needs some benchmarks to find out where the company stands at that particular point.

Useful benchmarks are industry comparisons and company trends. It may be useful to compare a company to certain industry averages to get a feel for how the company is performing. In that case it is necessary to obtain industry performance measures. One of the ways in which financial statements can be put to work is through ratio analysis. Ratios are simply one number divided by another; as such they may or not be meaningful. In finance, ratios are usually two financial statement items that may be related to one another and may provide the prudent user a good deal of information. Of the myriad of ratios that could be generated, some will be more meaningful than others. Generally ratios are divided into four areas of classification that provide different kinds of information: liquidity, turnover, profitability and debt.

THANK YOU

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CERTIFICATE

This is to certify that the project work titled, "RATIO ANALYSIS OF NALCO" is abonafide work of Ms. Ritika Mohanty under the guidance and supervision during the session of 2020-2022 and carried out in partial fulfillment for the award of degree of Master Business Administration.

Place: Bhubaneswar | **Dr. Chinmaya kumar Rout**

Date: | **Assistant prof. (finance)**

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DECLARATION

I, Ms. Ritika Mohanty hereby declare that the project work titled, "RATIO ANALYSIS OF NALCO" is the original work done by me and submitted to Biju Patnaik University of Technology, Odisha in fulfilment of requirement for the award of Master of Business Administration is a recorded of the work done by me under the supervision of Assistant Professor (Finance) Dr. Chinmaya Kumar Rout. This thesis has not formed before the basis of any degree, diploma or any similar titles.

Place: Bhubaneswar | **Dr. Chinmaya Kumar Rout**

Date: | **Assistant prof. (finance)**