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AN EMPIRICAL STUDY OF FINANCIAL PERFORMANCE OF SELECTED POWER GENERATION COMPANIES OF INDIA

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ABSTRACT:

The Power industry in India has one of the highest growth potential. However, which causes a few challenges like generating more power and distributing it resourcefully and at minimum expense. The current research covers five years. In the present study researcher has used various profitability, liquidity and valuation ratios for analyzing financial position. Moreover, researcher has used trend analysis as well as one way ANOVA for further analysis purposes. The analysis reveals that there is no significance difference in Retention Ratios (%).

KEY WORDS: Financial Performance, Power Generation, ANOVA, Ratio Analysis

INTRODUCTION:

In reality the infrastructural facility is the lifeline for the economy development. The power industry is having significant importance in the economic development of any country. It is been observed that all the developed countries encompass sufficient supply of power hence all the activities are carried out competently, effortlessly without time consuming. Power industry is essential and support system for any other industry. Financial performance analysis of these companies will enable useful information and explanations to their diverse users. Moreover the strength and weakness of these selected companies will also be discovered.

INDIAN POWER GENERATION INDUSTRY:

India comprises the fifth largest capacity of generating power in the world. In terms of producing electricity India's rank is third in global market. According to the thirteenth 5 Year Plan, India is intending for a total of 100 GW of power capacity accumulation by 2022. The Ministry of Power usually governs the power sector in India. There are three key pillars Generation, Transmission, and Distribution in the power sector in India.

REVIEW OF LITERATURE:

Azhar S. and Ramesh B. (2017). have conducted a research entitled, "Predecting Financial Insolvency of Listed Power Generation/Distribution Companies in India Using Z– Score". In the present research nineteen companies were selected and the data were collected through money control moreover Altman's Z score was used for purpose analyze. Lastly researcher suggested that the management of these selected companies

must find core reason behind the problem and find a solution for the same.

Vishal P. and Nilesh P. M. (2016), made an attempt of conducting "An Empirical Study on Financial Health of NTPC and NHPC". The objective behind the current research was to evaluate the efficiency, overall financial performance and forecast the financial health and viability of the selected power companies in India. The research was carried out for five years from 2010-11 to 2014-15. For the analysis of collected secondary data Altman's model was used through which researcher found that financial health of NTPC is strong as compared to NHPC.

Vijay H. V, (2015), had conducted research on "Financial performance analysis of conveniently selected companies of power sector in India". In which researcher had selected 5 companies of power sector in India, more over the date for the analysis were collected from different secondary sources and for analyzing data ANOVA test was used. At the end of the research researcher found that the financial performance of NTPC is healthier than all other selected companies.

OBJECTIVES OF THE STUDY:

1. To evaluate financial position of selected Power generation companies of India.

2. To evaluate profitability, liquidity and value of selected Power generation companies of India.

HYPOTHESES:

Ho_1 = There is no significant difference in the Net Profit Margin (%) of the selected Power Generation companies of India during the study.

Ho_2 = There is no significant in difference the Return on Net worth / Equity (%) of the selected Power Generation companies of India during the study.

Ho_3= There is no significant in the difference Current Ratio (X) of the selected Power Generation companies of India during the study.

Ho_4= There is no significant in the difference Inventory Turnover Ratio (X) of the selected Power Generation companies of India during the study.

Ho_5= There is no significant difference in the Market Cap/Net Operating Revenue (X) of the selected Power Generation companies of India during the study.

Ho_6= There is no significant difference in the Retention Ratios (%) of the selected Power Generation companies of India during the study.

SCOPE FOR THE FUTURE RESEARCH:

Present research restricted to the companies listed in Bombay Stock exchange. Study is limited to the five years from 2012-13 to 2016-17. Hence, there are wide scopes available for further research.

LIMITATION OF THE STUDY:

Present study completely based on secondary data and Study covers only five years from 2012-13 to 2016-17. In research, only six power generation companies had been selected. Analysis in the present research carried out taking into account various ratios.

RESEARCH METHODOLOGY:

NATURE OF THE STUDY:

The present research is analytical and quantitative in nature since here the financial performance of the selected power generation companies of India analyzed through quantitative data.

SAMPLE SELECTION:

The researcher had selected six power generation companies listed in Bombay Stock Exchange.

SAMPLE OF THE STUDY:

- Adani Power Ltd.
- Gujarat Industries Power Co. Ltd.
- JSW Energy Ltd.
- NTPC Ltd.
- Power Grid Corporation of India
- Tata Power Company Ltd.

COLLECTION OF DATA:

The relevant data in the present study collected through varied secondary data sources.

PERIOD OF THE STUDY:

The present research encompass study period of Five years from 2012-13 to 2016-17.

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TOOLS AND TECHNIQUES:

For the purpose of analysis in this research researcher had used ANOVA test.

ANALYSIS OF DATA:

Table: 1 Net Profit Margin (%)

Power Generation Companies	Year					Average
	2012 -13	2013 -14	2014-15	2015-16	2016-17	
Gujarat Industries Power Co.	15.45	13.5	10.39	13.92	17.49	14.15
JSW Energy	15.52	10.38	15.7	20.16	4.81	13.314
Power Grid Corporation of India	33.19	29.52	28.98	28.97	28.24	29.78
NTPC	19.21	15.23	14.04	15.2	11.99	15.134
Adani Power	-30.82	5.55	-0.64	0.74	-55.7	-16.174
Tata Power Company	10.71	11.05	11.64	15.58	5.74	10.944
Average	10.54333	14.205	13.35167	15.76167	2.095	

The above table shows Net Profit Margin (%) of Power Grid Corporation of India is highest in 2012-13 and Adani Power is lowest in 2016-17. Average of the Net Profit Margin (%) of Power Grid Corporation of India is highest and Adani Power is lowest. Overall trend in 2015-16 is high and in 2016-17 is low among other selected years.

Table: 1.1 ANOVA

Source of Variation	SS	DF	MS	F	P-VALUE	F CRIT
Between Groups	5616.326	5	1123.265	8.885011	0.00006	2.620654
Within Groups	3034.14	24	126.4225			
Total	8650.466	29				

Here, F-cal is higher than F-tab, so the null hypothesis is rejected which indicates that there is significant difference in the Net Profit Margin (%) of selected power generation companies during study.

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TABLE: 2 Return On Net Worth / Equity (%)						
Power Generation Companies	**Year**					**Average**
	2012 -13	**2013 -14**	**2014-15**	**2015-16**	**2016-17**	
Gujarat Industries Power Co.	13.56	10.58	6.87	9.25	10.25	10.102
JSW Energy	14.66	8.6	13.09	13.75	2.32	10.484
Power Grid Corporation Of India	16.13	13.05	13.04	14.1	15.09	14.282
NTPC	15.69	12.78	12.6	11.79	9.75	12.522
Adani Power	-41.98	7.64	-0.88	1.06	-129.55	-32.742
Tata Power Company	8.35	7.26	6.42	8.82	2.39	6.648
Average	4.401667	9.985	8.52333	9.795	-14.9583	

The above table shows Return on Net Worth / Equity (%) of Power Grid Corporation of India is highest in 2012-13 and Adani Power is lowest in 2016-17. Average of the Return on Net Worth / Equity (%) of Power Grid Corporation of India is highest and Adani Power is lowest. Overall trend in 2013-14 is high and in 2016-17 is low among other selected years.

Table: 2.1 ANOVA						
Source of Variation	**SS**	**DF**	**MS**	**F**	**P-VALUE**	**F CRIT**
Between Groups	8066.943	5	1613.389	2.884112	0.035409551	2.620654
Within Groups	13425.74	24	559.4057			
Total	21492.68	29				

Here, F-cal is higher than F-tab, so the null hypothesis is rejected which indicates that there is significant difference in the Return on Net Worth / Equity (%) of selected power generation companies during study.

Table: 3 Current Ratio (X)		
Power Generation	**Year**	**Average**

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Companies	2012 -13	2013 -14	2014-15	2015-16	2016-17	
Gujarat Industries Power Co.	1.13	1.35	1.36	1.53	0.85	1.244
JSW Energy	0.93	1.06	1.08	0.42	0.51	0.8
Power Grid Corporation Of India	0.43	0.47	0.36	0.4	0.38	0.408
NTPC	1.82	1.58	1.22	0.87	0.75	1.248
Adani Power	0.37	0.32	0.41	0.42	0.23	0.35
Tata Power Company	0.83	0.46	0.59	0.72	0.52	0.624
Average	0.918333	0.87333	0.83666	0.7266	0.54	

The above table shows Current Ratio (X) of NTPC of India is highest in 2012-13 and Adani Power is lowest in 2016-17. Average of the Current Ratio (X) of NTPC of India is highest and Adani Power is lowest. Overall trend in 2012-13 is high and in 2016-17 is low among other selected years.

Table: 3.1 ANOVA

Source of Variation	SS	DF	MS	F	P-VALUE	F CRIT
Between Groups	3.91167	5	0.782334	11.60876	8.88327E-06	2.620654
Within Groups	1.6174	24	0.067392			
Total	5.52907	29				

Here, F-cal is higher than F-tab, so the null hypothesis is rejected which indicates that there is significant difference in the Current Ratio (X) of selected power generation companies during study.

Table: 4 Inventory Turnover Ratio (X)

Power Generation Companies	Year					Average
	2012 -13	2013 -14	2014-15	2015-16	2016-17	
Gujarat Industries Power Co.	11.72	11.46	8.21	8.97	8.2	9.712
JSW Energy	15.56	15.5	13.21	10.89	7.98	12.628
Power Grid Corporation Of India	23.13	21.38	23.93	25.26	28.35	24.41
NTPC	16.19	13.4	9.83	10.11	12.03	12.312
Adani Power	5.01	11.89	10.82	15.5	10.02	10.648
Tata Power Company	12.57	12.14	12.97	12.62	10.32	12.124
Average	14.03	14.295	13.161	13.8916	12.8166	

The above table shows Inventory Turnover Ratio (X) of Power Grid Corporation of India is highest in 2016-17 and Adani Power is lowest in 2012-13. Average of the Inventory Turnover Ratio (X) of Power Grid

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Corporation of India is highest and Gujarat Industries Power Co. is lowest. Overall trend in 2013-14 is high and in 2016-17 is low among other selected years.

Table: 4.1 ANOVA						
Source of Variation	**SS**	**DF**	**MS**	**F**	**P-VALUE**	**F CRIT**
Between Groups	727.3006	5	145.4601	20.4986	5.91353E-08	2.620654
Within Groups	170.3064	24	7.096102			
Total	897.6071	29				

Here, F-cal is higher than F-tab, so the null hypothesis is rejected which indicates that there is significant difference in the Inventory Turnover Ratio (X) of selected power generation companies during study.

Table: 5 Market cap/Net Operating Revenue (X)						
Power Generation Companies	**Year**					**Average**
	2012 -13	**2013 -14**	**2014-15**	**2015-16**	**2016-17**	
Gujarat Industries Power Co.	0.79	0.72	1.06	0.9	1.2	0.934
JSW Energy	1.4	1.67	3.07	1.93	2.53	2.12
Power Grid Corporation Of India	3.84	3.61	4.42	3.5	4.01	3.876
NTPC	1.78	1.37	1.66	1.5	1.75	1.612
Adani Power	1.54	1.3	1.28	0.9	1.42	1.288
Tata Power Company	2.39	2.33	2.4	2.01	3.54	2.534
Average	1.956667	1.833333	2.315	1.79	2.40833	

The above table shows Market cap/Net Operating Revenue (X) of Power Grid Corporation of India is highest in 2014-15 and Gujarat Industries Power Co. is lowest in 2012-13. Average of the Market cap/Net Operating Revenue (X) of Power Grid Corporation of India is highest and Gujarat Industries Power Co. is lowest. Overall trend in 2016-17 is high and in 2015-16 is low among other selected years.

Table: 5.1 ANOVA						
Source of Variation	**SS**	**DF**	**MS**	**F**	**P-VALUE**	**F CRIT**
Between Groups	27.95347	5	5.590693	31.73135	7.91025E-10	2.620654

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Within Groups	4.22852	24	0.176188			
Total	32.18199	29				

Here, F-cal is higher than F-tab, so the null hypothesis is rejected which indicates that there is significant difference in the Market cap/Net Operating Revenue (X) of selected power generation companies during study.

Table: 6 Retention Ratios (%)

Power Generation Companies	Year					Average
	2012 -13	2013 -14	2014-15	2015-16	2016-17	
Gujarat Industries Power Co.	82.72	79.65	70.06	79.91	82.18	78.904
JSW Energy	66.96	45.55	67.01	72.48	-67.1	36.98
Power Grid Corporation Of India	69.93	69.98	78.98	79.94	93.04	78.374
NTPC	62.42	56.79	79.96	74.35	61.69	67.042
Adani Power	0	100	0	0	0	20
Tata Power Company	73.34	64.52	65.15	74.02	4.01	56.208
Average	59.22833	69.415	60.19333	63.45	28.97	

The above table shows Retention Ratios (%) of Adani Power of India is highest in 2013-14 and JSW Energy is lowest in 2016-17. Average of the Retention Ratios (%) of Adani Power of India is highest and Adani Power is lowest. Overall trend in 2013-14 is high and in 2016-17 is low among other selected years.

Table: 6.1 ANOVA

Source of Variation	SS	DF	MS	F	P-VALUE	F CRIT
Between Groups	14022.7	5	2804.54	2.560099	0.05417088	2.620654
Within Groups	26291.54	24	1095.481			
Total	40314.24	29				

Here, F-cal is higher than F-tab, so the null hypothesis is rejected which indicates that there is significant difference in the Retention Ratios (%) of selected power generation companies during study.

FINDINGS OF THE STUDY:

Table: 7 Findings of the Study

Variables	F- Calculated Value	P- Value	F – Critical Value	Significance	Ho Accepted / rejected
Net Profit Margin (%)	8.885	0.00006	2.62065	Yes	Rejected
Return on Net worth / Equity (%)	2.884112	0.03540	2.62065	Yes	Rejected
Current Ratio (X)	11.6087	8.8832	2.62065	Yes	Rejected
Inventory Turnover Ratio (X)	20.498	5.91352	2.62065	Yes	Rejected
Market Cap/Net Operating Revenue (X)	31.7313	7.9102	2.62065	Yes	Rejected
Retention Ratios (%)	2.5600	0.0541	2.62065	No	accepted

CONCLUSION:

Moreover, overall financial position of Power Grid Corporation of India is admirable and Adani power and Gujarat Industries Power Co. are weak, moreover JSW Energy, NTPC And Tata Power Companies are moderated.

In general increase in Net profit margin, return on net worth to equity ratio leads towards the more competent and efficient profitability status to a company, while raise in the current ratio portrays that company is efficient enough to payback its current liability but if it exceeds to some point then it leads to increase ideal funds which doesn't generate profit so it's better to have equivalent current ratios.

Moreover, higher inventory turnover ratio point toward a sound inventory management of a company, & higher market cap/ net operating revenue ratio specifies ideal situation, as retention ratio increases indicates lower dividend payout ratio and also company may be investing this fund in profitable venture than it will lead to share price appreciation in future. The study will be helpful to all the stakeholders of Indian Power Generation and researcher to carry out advance research.

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