

EXPLORING THE JOURNEY OF STEEL AUTHORITY OF INDIA (SAIL) AS A MAHARATNA COMPANY

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ABSTRACT

The Indian economy is one of the fastest expanding economies one arth and its growth and development are majorly dependent on the public and private sectors. The Government is continuously working on identifying key areas with the sole aim to upgrade, improve and strengthen the position of CPSEs. Owing to this fact, Government of India has come up with the model of Ratna Category. 'Maharatna' status allows state-run firms greater financial autonomy— they can decide on investments of up to 15% of their net worth in a project without government approval. Till date, this status is conferred to top 8 CPSEs in India and therefore researcher is intended to known what difference does it bring to the performance of these CPSEs. Present study covers different aspects of financial performance of SAIL like profitability, liquidity, solvency, expenses and management efficiency during the study period 2004-05 to 2015-16 and Paired Sample t-Test was applied to check whether there was any significant improvement in the financial performance of the Selected Company during the study period. It was concluded that greater financial autonomy has created an impact on the profitability position of the company though liquidity, solvency and turnover remains unaffected.

KEYWORDS: *Maharatna Companies, SAIL, PPP Model, CPSE and Financial Performance*

Note: This study is an extension of doctoral research work of Dr. Neshat Anjum under supervision of Prof. Asiya Chaudhary, Professor, Department of Commerce, Aligarh Muslim University, Aligarh

INTRODUCTION

Indian economy is one of the most expanding economies of the earth and its growth and development is majorly dependent on public and private sectors. Government is continuously working on identifying key areas for infrastructural and technological development where either public sector investment was inadequate or strategic areas like defence equipment and heavy industries so as to bring them in the priority zone for growth of CPSEs. The sole aim of the policy makers is to upgrade, improve and strengthen the position of CPSEs. Therefore, several initiatives were taken such as disinvestment, professionalization of CPSEs Board of Directors, entering into Memorandum of Understanding (MoU) etc. Owing to this fact, Government of India has come up with the model of Ratna Category.

Categorization of CPSEs

Public sector companies are divided into three categories:

- Maharatna

- Navratna
- Miniratna CPSEs
 - Category I
 - Category II

As of 23 October 2019, there are 10 Maharatnas, 14 Navratnas and 73 Miniratnas. There are nearly 300 CPSEs (central public sector enterprises) in total. (Department of Public Enterprises, 2009)

In today's India, CPSEs have been exposed to greater competition from both domestic as well as multi-national corporations. Also, they are undergoing the process of transformation and improvement in terms of organization, finances and operations in order to display a turnaround story. (KPMG, n.d) Therefore, it has become necessary to study the impact of Structural changes announced by Government in order diagnoses the issues responsible of slower growth of CPSEs and take remedial step for improving the overall performances.

LITERATURE REVIEW

Awarding additional financial autonomy has bestowed comparative advantage and free hand to compete globally and come up as corporate giants. Therefore it is important to study their performance on regular basis and Kumar (1991) made an attempt to study 17 Private, 5 state owned and 1 central public sector companies in order to analyse the activities of the selected companies in relation to ROCE, ROA, financial structure, fixed assets and working capital management. Similarly Ahuja and Majumdar (1998) tried to identified various variables in order to evaluate impact using Regression analysis analyse the performance of 68 state owned enterprise in manufacturing sector from 1987 to 1991. Ratio is an important tool to compare line-item data from a company's financial statements to reveal insights regarding profitability, liquidity, operational efficiency, and solvency. Sahu (2002) and Pervej (2017) in their study tried to explore the usefulness of current and quick ratios. The researchers aimed to frame a model involving these ratios. Seetharaman (2010) in his study has applied econometrics approach to evaluate and appraise the financial performance of public sector enterprises and the findings of the study advocated that liquidity consideration is an important factor from investment point of view.

Statement of the Problem

Large no. public sector units are suffering from inefficiency owing to huge investment on social overheads, inefficient management, poor labour relations, under-utilization of capacity, etc. These factors negatively affect the functioning. One cannot deny that in recent past, several financial problems are faced by this unit which requires critical and diagnostic approach. The main aim of this paper is to look into the impact of Maharatna Status on the financial and operational efficiency of CPSEs with special reference to Steel Authority of India Limited.

Research Gap

Review of literature was done with an aim to identify and highlight various gaps and it was observed that several studies are done on the financial performance analysis of various industries, both from public and private sector but very few studies till date have been conducted to appraise the financial efficiency CPSEs in Maharatna category in general and SAIL in particular.

Scope of the Study

Present study covers financial performance of SAIL during the study period 2004-05 to 2015-16 and covers different aspects of financial performance of Steel Authority of India Limited like profitability, liquidity, solvency, expenses and management efficiency.

Significance of the Study

The study is expected to help and assist the Policy maker, management, the potential investors, the financiers, and the government at large, to take valuable decisions and also provide insight to financial institutions, banks and long-term lenders to understand the financial capability and soundness of the CPSEs.

OBJECTIVES OF THE STUDY

- To make comparative analysis of financial performance of SAIL between Pre and post Maharatna status.

METHODOLOGY

In this paper the researcher aims to conduct the Paired sample *t*-Test analysis for analysing the significance of the differences if at all, exists in the performance of SAIL before and after grant of Maharatna Status and also to study the impact of such status on the overall financial performance of SAIL. SAIL was granted Maharatna status on 19th May 2010. Therefore the Researcher has divided the study period of 12 years into two equal halves by taking the year of status declaration as the middle point. The two period of the study are as follows:

- Pre Maharatna status period 2004-05 to 2009-10
- Post Maharatna status period 2010-11 to 2015-16

To serve the purpose, researcher has applied paired sample *t*-test, sometimes also called as the dependent sample *t*-test, which is a statistical procedure used to determine whether the mean difference between two sets of observations is zero. Specifically, it tests the null hypothesis:

Null hypotheses: $\mu_d = 0$

Alternate hypotheses: $\mu_d \neq 0$

Where μ = group mean. If, however, the paired sample *t*-test returns a statistically significant result, we accept the alternative hypothesis (H_A), which is that there are at least two group means that are statistically significantly different from each other. (Student's *t*-test, n.d)

The probability level, also known as the *p*-value or significance level, is the probability that the test statistic will take a value at least as extreme as the observed value, assuming that the null hypothesis is true. If the *p*-value is less than the prescribed α , in this case 0.05, the null hypothesis is rejected in favour of the alternative hypothesis. Otherwise, there is not sufficient evidence to reject the null hypothesis (Paired sample *t*-test, n.d)

Before running the Paired sample *t*-test, it is necessary to fulfil the assumptions in order to have unbiased results.

The assumptions of the paired *t*-test are:

- The data are continuous (not discrete).

- The data, i.e., the differences for the matched-pairs, follow a normal probability distribution.
- The sample of pairs is a simple random sample from its population. Each individual in the population has an equal probability of being selected in the sample.

In the present study the researcher has tested the data for fulfilment of the above mentioned assumptions and concluded that the data are fit to be used for running the paired sample *t*-test

FINDINGS FROM APPLICATION OF PAIRED SAMPLE T-TEST ON THE VARIABLES OF SAIL

Statistical Analysis of Liquidity profile of SAIL between Pre and Post Announcement of Maharatna Status

H_{01a}: There is no significant difference in the value of CR between pre and post announcement of Maharatna status to SAIL.

Alternate Hypothesis: There is significant difference in the value of CR between pre and post announcement of Maharatna status to SAIL.

Table 1: Current Ratio of SAIL

		Paired Differences					T	df	Sig. (2-tailed)	Mean	Mean
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					Pre-Maharatna Status	Post-Maharatna Status
					Lower	Upper					
Pair 1	status – CR	.031	.969	.2797	-.58477	.64643	.110	11	.914	1.500	1.469

Source: SPSS output

Table 1 shows the result of paired sample *t*-test analysis of Current ratio of SAIL before and after granting of Maharatna status to it. The mean difference in the value CR between pre and post Maharatna period is 0.03. Here, positive value indicates that the position of CR of SAIL was better in pre Maharatna period.

The *t* value of 0.110 with the significance value (two-tailed) of 0.914, which is more than 0.05, implies that the variation in current ratio of SAIL before and after the Maharatna status is not significantly different. Hence, the null hypothesis stating *there is no significant difference in the value of CR between pre and post announcement of Maharatna status to SAIL* is accepted.

H_{01b}: There is no significant difference in the value of LR between pre and post announcement of Maharatna status to SAIL.

Alternate Hypothesis: There is significant difference in the value of LR between pre and post announcement of Maharatna status to SAIL.

Table 2: Liquid Ratio of SAIL

		Paired Differences					T	df	Sig. (2-tailed)	Mean	Mean
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					Pre-Maharatna status	Post-Maharatna Status
					Lower	Upper					
Pair 1	status – LR	.578	.94036	.27146	1.500	1.469	2.130	11	.057	1.50	0.922

Source: SPSS output

Table 2 shows the result of paired sample *t*-test analysis of Liquid ratio of SAIL before and after granting of Maharatna status to it. The mean difference in the value LR between pre and post Maharatna period is 0.578. Here, positive value indicates that the position of LR of SAIL was better in pre Maharatna period.

The *t* value of 2.130 with the significance value (two-tailed) of 0.057, which is more than 0.05, implies that the variation in liquid ratio of SAIL before and after the Maharatna status is not significantly different. Hence, the null hypothesis stating *there is no significant difference in the value of LR between pre and post announcement of Maharatna status to SAIL* is accepted.

Statistical Analysis of Solvency Profile of SAIL between Pre and Post Announcement of Maharatna Status

H_{02a}: There is no significant difference in the value of DER between pre and post announcement of Maharatna status to SAIL.

Alternate Hypothesis: There is significant difference in the value of DER between pre and post announcement of Maharatna status to SAIL.

Table 3: Debt Equity Ratio of SAIL

		Paired Differences					T	Df	Sig. (2-tailed)	Mean	Mean
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					Pre-Maharatna Status	Post-Maharatna Status
					Lower	Upper					
Pair 1	status – DER	.163	1.03354	.29836	-.49418	.81918	.545	11	.597	1.50	1.34

Source: SPSS output

Table 3 shows the result of paired sample *t*-test analysis of debt-equity ratio of SAIL before and after granting of Maharatna status to it. The mean difference in the value of DER between pre and post Maharatna period is 0.163. Here, positive value indicates that the position of DER of SAIL was better in pre Maharatna period.

The *t* value of 0.545 with the significance value (two-tailed) of 0.597, which is more than 0.05, implies that the variation in DER ratio of SAIL before and after the Maharatna status is not significantly different. Hence, the null hypothesis stating *there is no significant difference in the value of DER between pre and post announcement of Maharatna status to SAIL* is accepted.

H_{02b}: There is no significant difference in the value of ICR between pre and post announcement of Maharatna status to SAIL.

Alternate Hypothesis: There is significant difference in the value of ICR between pre and post announcement of Maharatna status to SAIL.

Table 4: Interest Coverage Ratio of SAIL

		Paired Differences				t	Df	Sig. (2-tailed)	Mean	Mean	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				Pre-Maharatna Status	Post-Maharatna Status	
					Lower				Upper		
Pair1	status – ICR	-14.52	15.17	4.38	-.24.16	4.88	3.32	11	.007	1.50	16.02

Source: SPSS output

Table 4 shows the result of paired sample *t*-test analysis of Interest Coverage ratio of SAIL before and after granting of Maharatna status to it. The mean difference in the value of CR between pre and post Maharatna period is -14.52. Here, negative value indicates that the position of ICR of SAIL is better in post Maharatna period.

The *t* value of -3.32 with the significance value (two-tailed) of 0.007, which is less than 0.05, implies that the variation in ICR ratio of SAIL before and after the Maharatna status is significantly different. Hence, the null hypothesis stating *there is no significant difference in the value of ICR between pre and post announcement of Maharatna status to SAIL* is rejected and alternate hypothesis stating that *there is significant difference in the value of ICR between pre and post announcement of Maharatna status to SAIL* is accepted.

Statistical Analysis of Turnover Profile of SAIL between Pre and Post Announcement of Maharatna Status

H_{03a}: There is no significant difference in the value of WTR between pre and post announcement of Maharatna status to SAIL

Alternate Hypothesis: There is significant difference in the value of WTR between pre and post announcement of Maharatna status to SAIL

Table 5: Working Capital Turnover Ratio of SAIL

Pair	status –	Paired Differences					T	Df	Sig. (2-tailed)	Mean	Mean
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					Pre-Maharatna Status	Post-Maharatna Status
					Lower	Upper					
1	WTR	-1.14	9.175	2.649	-6.973	4.686	-0.4	11	.674	1.50	2.64

Source: SPSS output

Table 5 shows the result of paired sample *t*-test analysis of working capital turnover ratio of SAIL before and after granting of Maharatna status to it. The mean difference in the value of WTR between pre and post Maharatna period is -1.14. Here, negative value indicates that the position of WTR of SAIL is better in post Maharatna period.

However, the *t* value of -0.4 with the significance value (two-tailed) of 0.674, which is more than 0.05, implies that, the variation in WTR ratio of SAIL before and after the Maharatna status is not significantly different. Hence, the null hypothesis stating *there is no significant difference in the value of WTR between pre and post announcement of Maharatna status to SAIL* is accepted.

H_{03b}: There is no significant difference in the value of ITR between pre and post announcement of Maharatna status to SAIL

Alternate Hypothesis: There is significant difference in the value of ITR between pre and post announcement of Maharatna status to SAIL

Table 6: Inventory Turnover Ratio of SAIL

Pair	status –	Paired Differences					t	df	Sig. (2-tailed)	Mean	Mean
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					Pre-Maharatna status	Post-Maharatna status
					Lower	Upper					
1	ITR	-3.03	1.916	.553	-4.24	-1.81	-5.47	11	.000	1.50	4.53

Source: SPSS output

Table 6 shows the result of paired sample *t*-test analysis of inventory turnover ratio of SAIL before and after granting of Maharatna status to it. The mean difference between ITR of pre and post Maharatna period is -3.03. Here, negative value indicates that the position of ITR of SAIL is better in post Maharatna period.

However, the *t* value of -5.47 with the significance value (two-tailed) of 0.00, which is less than 0.05, implies that the variation in ITR ratio of SAIL before and after the Maharatna status is significantly different. Hence, the null hypothesis stating *there is no significant difference in the value of ITR between pre and post announcement of Maharatna status to SAIL* is rejected and alternate hypothesis stating that *there is significant difference in the value of ITR between pre and post announcement of Maharatna status to SAIL* is accepted.

H0_{3c}: There is no significant difference in the value of TATR between pre and post announcement of Maharatna status to SAIL

Alternate Hypothesis: There is significant difference between TATR of SAIL between pre and post announcement of Maharatna status.

Table 7: Total Assets Turnover Ratio of SAIL

		Paired Differences					<i>t</i>	df	Sig. (2-tailed)	Mean	Mean
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					Pre-Maharatna status	Post-Maharatna status
					Lower	Upper					
Pair 1	status TATR	.812	.68459	.19763	.37670	1.24664	4.11	11	.002	1.50	0.688

Source: SPSS output

Table 7 shows the result of paired sample *t*-test analysis of total assets turnover ratio of SAIL before and after granting of Maharatna status to it. The mean difference in the value of TATR between pre and post Maharatna period is 0.812. Here, positive value indicates that the position of TATR of SAIL was better in pre Maharatna period.

However, the *t* value of 4.11 with the significance value (two-tailed) of 0.02, which is less than 0.05, implies that the variation in TATR ratio of SAIL before and after the Maharatna status is significantly different. Hence, the null hypothesis stating *there is no significant difference in the value of TATR between pre and post announcement of Maharatna status to SAIL* is rejected and alternate hypothesis stating that *there is significant difference in the value of TATR between pre and post announcement of Maharatna status to SAIL* is accepted

Statistical Analysis of Expenses Profile of SAIL between Pre and Post Announcement of Maharatna Status

H0_{4a}: There is no significant difference in the value of OER between pre and post announcement of Maharatna status to SAIL

Alternate Hypothesis: There is significant difference in the value of OER between pre and post announcement of Maharatna status to SAIL

Table 8: OER of SAIL

Pair	status – OER	Paired Differences					T	df	Sig. (2-tailed)	Mean	Mean
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					Pre-Maharatna Status	Post-Maharatna Status
					Lower	Upper					
1		-6.96	6.03549	1.74230	-10.78977	-3.12023	-3.992	11	.002	1.500	8.455

Source: SPSS output

Table 8 shows the result of paired sample *t*-test analysis of operating expense ratio of SAIL before and after granting of Maharatna status to it. The mean difference in the value of OER between pre and post Maharatna period is -6.96. Here, negative value indicates that the position of OER of SAIL is better in post Maharatna period.

Moreover, the *t* value of -3.99 with the significance value (two-tailed) of 0.02, which is less than 0.05, implies that the variation in OER ratio of SAIL before and after the Maharatna status is significantly different. Hence, the null hypothesis stating *there is no significant in the value of OER between pre and post announcement of Maharatna status to SAIL* is rejected and alternate hypothesis stating that *there is significant difference in the value of OER between pre and post announcement of Maharatna status to SAIL* is accepted.

Statistical Analysis of Profitability Profile of SAIL between Pre and Post Announcement of Maharatna Status

H_{0sa}: There is no significant difference in the value of ROCE between pre and post announcement of Maharatna status to SAIL

Alternate Hypothesis: There is significant difference in the value of ROCE between pre and post announcement of Maharatna status to SAIL

Table 9: ROCE of SAIL

Pair	status – ROCE	Paired Differences					<i>t</i>	df	Sig. (2-tailed)	Mean	Mean
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					Pre-Maharatna status	Post-Maharatna status
					Lower	Upper					
1		-16.60	14.71067	4.24660	-25.94254	-7.24912	-3.901	11	.002	1.50	18.097

Source: SPSS output

Table 9 shows the result of paired sample *t*-test analysis of return on capital employed ratio of SAIL before and after granting of Maharatna status to it. The mean difference in the value of ROCE between pre and post Maharatna period is -16.60. Here, negative value indicates that the position of ROCE of SAIL is better in post Maharatna period.

Moreover, the *t* value of -3.90 with the significance value (two-tailed) of 0.02, which is less than 0.05, implies that the variation in ROCE ratio of SAIL before and after the Maharatna status is significantly different. Hence, the null hypothesis stating *there is no significant difference in the value of ROCE between pre and post announcement of Maharatna status to SAIL* is rejected and alternate hypothesis stating that *there is significant difference in the value of ROCE between pre and post announcement of Maharatna status to SAIL* is accepted.

H_{05b} : There is no significant difference in the value of ROA between pre and post announcement of Maharatna status to SAIL

Alternate Hypothesis: There is significant difference between ROA of SAIL between pre and post announcement of Maharatna status

Table 10: ROA of SAIL

Pair	status – ROA	Paired Differences					T	df	Sig. (2-tailed)	Mean	Mean
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					Pre-Maharatna status	Post-Maharatna status
					Lower	Upper					
1		-6.96	6.03549	1.74230	-10.78977	-3.12023	-3.992	11	.002	1.500	8.455

Source: SPSS output

Table 10 shows the result of paired sample *t*-test analysis of return on assets ratio of SAIL between before and after granting of Maharatna status to it. The mean difference in the value of ROA between pre and post Maharatna period is -6.96. Here, negative value indicates that the position of ROA of SAIL is better in post Maharatna period.

Moreover, the *t* value of -3.99 with the significance value (two-tailed) of 0.02, which is less than 0.05, implies that the variation in ROA ratio of SAIL before and after the Maharatna status is significantly different. Hence, the null hypothesis stating *there is no significant difference in the value of ROA between pre and post announcement of Maharatna status to SAIL* is rejected and alternate hypothesis stating that *there is significant difference in the value of ROA between pre and post announcement of Maharatna status to SAIL* is accepted.

CONCLUSIONS

Conclusion After Analysis of Solvency Profile of SAIL

Table 11: Paired Samples Test

Ratios	Pre Maharatna Status Mean	Post Maharatna Status Mean	Paired Difference Mean	Sig. (2-tailed)
DER	1.50	1.34	.163	.597
ICR	1.50	16.02	-14.52	.007

Source: Prepared by researcher

Table 11 shows the result of paired sample *t*-test analysis of debt-equity ratio and Interest Coverage Ratio of SAIL before and after granting of Maharatna status to it. Here, positive value of DER indicates that the position of DER of SAIL was better in pre Maharatna period whereas negative value of ICR indicates that the position of ICR is better in post Maharatna period.

Moreover, the *t* value of 0.545 with the significance value (two-tailed) of 0.597, which is more than 0.05, implies that the variation in DER ratio of SAIL before and after the Maharatna status is not significantly different. Whereas in case of ICR, the *t* value of -3.32 with the significance value (two-tailed) of 0.007, which is less than 0.05, implies that the variation in ICR ratio of SAIL before and after the Maharatna status is significantly different.

Therefore it can be concluded that *there is no significant difference in the value of DER between pre and post announcement of Maharatna status to SAIL whereas there is significant difference in the value of ICR between pre and post announcement of Maharatna status to SAIL.*

Conclusion after Analysis of Liquidity Profile of SAIL

Table 12: Paired Samples Test

Ratios	Pre Maharatna Status Mean	Post Maharatna Status Mean	Paired Difference Mean	Sig. (2-tailed)
CR	1.500	1.469	.031	.914
LR	1.50	0.922	.578	.057

Source: Prepared by researcher

Table 12 shows the result of paired sample *t*-test analysis of CR and LR of SAIL before and after granting of Maharatna status to it. Here, positive value indicates that the position of both CR and LR of SAIL were better in pre Maharatna period.

Also, the *t* value of 0.110 with the significance value (two-tailed) of 0.914, which is more than 0.05, implies that the variation in current ratio of SAIL before and after the Maharatna status is not significantly different. Similarly, the *t* value of 2.130 with the significance value (two-tailed) of 0.057, which is more than 0.05, implies that the variation in liquid ratio of SAIL before and after the Maharatna status is not significantly different.

Therefore it can be concluded that *there is no significant difference in the value of CR and LR between pre and post announcement of Maharatna status to SAIL*

Conclusion from Analysis of Profitability Profile of SAI

Table 13: Paired Samples Test

Ratios	Pre Maharatna Status Mean	Post Maharatna status Mean	Paired Difference Mean	Sig. (2-tailed)
ROCE	1.50	18.097	-16.60	.002
ROA	1.500	8.455	-6.96	.002

Source: Prepared by researcher

Table 13 shows the result of paired sample *t*-test analysis of return on capital employed ratio (ROCE) and return on assets (ROA) of SAIL before and after granting of Maharatna status to it. Here, negative value of ROCE indicates that the position of ROCE of SAIL is better in post Maharatna period whereas the negative value indicates that the position of ROA of SAIL is better in post Maharatna period.

Moreover, the *t* value of -3.90 with the significance value (two-tailed) of 0.02, which is less than 0.05, implies that the variation in ROCE ratio of SAIL before and after the Maharatna status is significantly different. Similarly, the *t* value of -3.99 with the significance value (two-tailed) of 0.02, which is less than 0.05, implies that the variation in ROA ratio of SAIL before and after the Maharatna status is also significantly different.

Hence, it can be concluded that *there is significant difference in the value of ROCE and ROA between pre and post announcement of Maharatna status to SAIL.*

Conclusion from Analysis of Turnover Profile of SAIL

Table 14: Paired Samples Test

Ratios	Pre Maharatna Status Mean	Post Maharatna Status Mean	Paired Difference Mean	Sig. (2-tailed)
ITR	1.50	4.53	-3.03	.000
WTR	1.50	2.64	-1.14	.674
TATR	1.50	0.688	.812	.002

Source: Prepared by researcher

Table 14 shows the result of paired sample *t*-test analysis of ITR, WTR and TATR of SAIL before and after granting of Maharatna status to it. Here, negative value indicates that the position of WTR and ITR of SAIL is better in post Maharatna period. Whereas, positive value indicates that the position of TATR of SAIL was better in pre Maharatna period.

Furthermore, the *t* value of -0.4 with the significance value (two-tailed) of 0.674, which is more than 0.05, implies that, the variation in WTR ratio of SAIL before and after the Maharatna status is not significantly different. However, the *t* value of -5.47 with the significance value (two-tailed) of 0.00, which is less than 0.05, implies that the variation in ITR ratio of SAIL before and after the Maharatna status is significantly different. Similarly, the *t* value of 4.11 with the significance value (two-tailed) of 0.02, which is less than 0.05, implies that the variation in TATR ratio of SAIL before and after the Maharatna status is significantly different too.

Therefore it can be concluded *there is no significant difference in the value of WTR between pre and post announcement of Maharatna status to SAIL whereas there is significant difference in the value of ITR and TATR between pre and post announcement of Maharatna status to SAIL*

Conclusion after Analysis of Expense Profile of SAIL

Table 15: Paired Samples Test

Ratios	Pre Maharatna Status Mean	Post Maharatna Status Mean	Paired Difference Mean	Sig. (2-tailed)
OER	1.500	8.455	-6.96	.002

Source: Prepared by researcher

Table 15 shows the result of paired sample *t*-test analysis of operating expense ratio of SAIL before and after granting of Maharatna status to it. Here, negative value indicates that the position of OER of SAIL is better in post Maharatna period.

Moreover, the *t* value of -3.99 with the significance value (two-tailed) of 0.02, which is less than 0.05, implies that the variation in OER ratio of SAIL before and after the Maharatna status is significantly different.

Hence, it can be concluded that *there is significant difference in the value of OER between pre and post announcement of Maharatna status to SAIL*.

LIMITATIONS OF THE STUDY

- The study is based on secondary data and therefore accuracy is subject to complete disclosure of information
- The present study covers the period of 12 years only i.e. from 2004-05 to 2015-16. Thus this field is always open for future research.

Direction for Future Research

- A large number of state-owned Maharatna corporations are working in the economy but the researcher has taken up only one corporation for the study. So, the future researchers may evaluate the financial performance of similar companies like BHEL, GAIL, ONGC etc.
- Since only financial aspect of SAIL has been studied, all other aspects like human resource management, marketing strategies, managerial decision, inventory management, costing method etc. can also be studied in future.

Note: This study is an extension of doctoral research work of Dr. Neshat Anjum under supervision of Prof. Asiya Chaudhary, Professor, Department of Commerce, Aligarh Muslim University, Aligarh

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