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IMPACT OF MERGER ON FINANCIAL PERFORMANCE OF BANK: A CASE STUDY OF ICICI BANK AND BANK OF RAJASTHAN

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Abstract: *One of the most essential sectors that contribute to national growth is banking. Mergers and acquisitions (M&A) are becoming more common in today's globalised economy, and the baking industry is no exception. This paper evaluates ICICI Bank's financial performance following its acquisition of Bank of Rajasthan in May 2010. The pre- and post-merger performance of ICICI Bank was examined using financial ratios such as Net Profit ratio, ROCA, ROE, Asset Utilization Ratio, Advances to Deposits, and Advances to Fixed Assets from 2007-08 to 2010-11. The T-test was used to compare the financial ratios before and after the merger. . The results show that, there is no significant difference in average performance of ICICI bank before and after merger period in terms of efficiency position while there is significant difference in average performance of profitability position of the bank.*

Key Words: *Merger, bank, ratio, performance, profit.*

1. INTRODUCTION:

1.1 INTRODUCTION OF BANKING

Banking is a financial institution that makes loans and advances to those in need and takes deposits from those with excess funds. It provides money to entrepreneurs for their businesses, individuals for various purposes, farmers for agricultural activities, and small and medium-sized businesses in the market for start-ups, among other things.

1.2 DEFINITION OF BANKING

Section 5(b) of the banking regulation act 1949, states that "Banking as accepting for the purpose of lending & investment of deposits of money or fund from the general public, repayable on demand(as and when asked), order or otherwise and withdrawal by cheque, draft, or any other means."

1.3 MEANING OF MEREGER AND ACQUISITION

Merger and Acquisition is a consolidation of business firms. It is the process of reorganisingof companies. "Merger" is a combination of two companies or businesses into new one, while in "Acquisition" is the taking over of one company by another.

2. REVIEW OF LITERATURE:

Rajamani (2015) examined the impact of merger of centurion bank of Punjab on the financial performance of HDFC bank. The researcher considered the duration of 10 years, which includes 5 years for pre-merger and 5 year for post-merger. On the basis of selected variables like gross profit margin, net profit margin, operating profit margin, return on capital employed, return on equity and debt-equity ratio financial performance is measured. The t-test is used for testing the statistical significance for the study. They have found that all the variables shows increasing trend whereas the operating profit margin shows mixed trend. The study concludes that significant improvement is observed in financial performance of bank after merger.

Gupta (2016) evaluated the merger of State bank of Indore with State bank of India. They considered 4 year for before merger and 4 year for after merger and the year of merger as base year. However, the study employed paired sample t- test for achieving the objective of testing the statistical significance of various parameters. The researcher has found positive impact on investment and liquidity parameters while negative impact is seen on profitability of the bank. They suggested that positive impact of merger may accrue in later years as they only covers the time period of 4 years for before merger and 4 years for after merger.

Devarajappa (2012) examined the merger of HDFC bank with centurion bank of Punjab ltd. The study covers 6 years for pre and post merger to measure financial performance in terms of gross profit margin, net profit margin, operating profit margin, return on capital employed,return on equity and debt equity ratio. They used t- test for the study. The result shows that the banks have been positively affected by the event of merger.

Achini (2015) examined the merger of ICICI bank and Bank of Rajasthan. The researcher compares the pre and post-merger financial performance of merged banks with the help of financial parameters such as credit to deposit, capital adequacy, return on assets, net profit margin, net worth ratio and also applied paired t-test for testing the statistical significance. They have found that in the period of post merger all ratios shows increment in banks performance but according to statistical significance they concluded it as no significant difference is observed.

Shah and khan(2017) studied the effect of merger and acquisition on the operating performance of the acquirer banks performance in Pakistan. They considered 16 banks as a sample and period of 6 years for pre-post merger. Profitability ratio, liquidity ratio and capital adequacy ratios are used to measure the performance and paired t-test is used for the study. The study reveals that all performing ratios indicate an unfavourable effect on the performances of the acquirer banks in post-merger period.

Tajalli and Shehzad (2014) tested the impact of merger and acquisition of Pakistan banks and its profitability. The researcher selected 10 banks as a sample and used paired t-test with the help of SPSS. The purpose of the research is to identify the relationship between the merger & acquisition and impact of this strategic move on the financial performance of banks, so they also conducted casual and correlational study. The study concludes that no significant relationship between ratios of banks and after merger is observed.

RESEARCH GAP:

Various academicians and scholars from all around the world have conducted studies on mergers and acquisitions. The majority of work has been done on analysing the financial performance of banks using accounting tools such as the CAMEL model, profitability ratios, and capital structure ratios, with very little work done on a comparative analysis of all banks in the banking industry, which shows which banks merger are performing better than the others. From that viewpoint, here the study purpose of the topic is to investigate about the banks performances on the basis of financial ratios and statistical tools. It also covers a comparative examination of the selected merger bank, which was not included in the prior study.

3. RESEARCH METHODOLOGY:

3.1 RESEARCH OBJECTIVES:

1. To study the impact of merger and acquisition on profitability of selected Indian banks.
2. To study the impact of merger and acquisition on efficiency of selected Indian banks.

3.2 SIGNIFICANCE OF THE STUDY:

- Investors to make decision regarding investments.
- Existing private sector banks as well as public sector banks for taking resolutions in respect of merger and acquisitions whether to get merged or not.

3.3 SAMPLEOF THE STUDY: In this study, ICICI BANK and BANK OF RAJASTHAN have been selected.

3.4 SOURCES OF DATA COLLECTION: The research is mainly based on secondary data. This data have been taken from annual reports of respected banks under the study.

3.5 PERIOD OF THE STUDY: The data have been collected for 6 years i.e. 3 years for pre-merger and 3 years for post-merger.

3.6 RESEARCH HYPOTHESIS:

H0-1: There is no significant difference in net profit ratio between pre-merger period and post-merger period.
H0-2: There is no significant difference in return on capital employed ratio between pre-merger period and post-merger period.
H0-3: There is no significant difference in return on equity ratio between pre-merger period and post-merger period.
H0-4: There is no significant difference in asset utilization ratio between pre-merger period and post-merger period.

H0-5: There is no significant difference in advances to deposits ratio between pre-merger period and post-merger period.
H0-6: There is no significant difference in advances to fixed assets ratio between pre-merger period and post-merger period.

3.7 TECHNIQUES AND TOOLS USED FOR THE STUDY :-
For financial performance analysis, paired sample t- test and accounting ratios are used.

Accounting Ratio used for the study

- **Profitability indicator ratios :-**

1. Net profit ratio = (Net profit/ Sales) *100
2. Return on capital employed = (Net profit/ Total assets) * 100
3.Return on Equity = (Net profit/ Equity shareholder's funds) * 100

- **Efficiency indicator ratios:-**

1. Asset utilization ratio = Sales/ Total asset
2. Advances to Deposits = Advances/ Total deposits
3. Advances to Fixed assets = Advances / Fixed assets

3.8 LIMITATIONS OF THE STUDY:
- The scope of the study is limited to the one Indian private bank only.
- The period of the study is limited to 3 year for before merger and 3 years for after merger.
- Accounting ratios is also applied for the study, which have its own limitations.

4. DATA ANALYSIS AND INTERPRETATION:
Data analysis and interpretation is the most important step in any research which empirically test the hypothesis and tries to generalize the population based on the sample drawn. However, there are numerous ways and techniques available to deal with different types of data set. Here in this paper the study has used ratio analysis to measure the profitability and efficiency of management after merger deal of ICICI bank and Bank of Rajasthan. Further this section represents the paired sample t test to measure the differences in before and after performance of ICICI bank. Following is the comparison of two banks individually in the form of tables.

4.1 PROFITABILITY RATIO:
Table 1: Profitability Ratios of ICICI BANK and BANK OF RAJASTHAN last three years of prior merger

	ICICI BANK (Bidder bank)			BANK OF RAJASTHAN (Target bank)		
Particulars (in %)	**2008**	**2009**	**2010**	**2008**	**2009**	**2010**
Net profit ratio	10.9713	9.1370	9.3224	14.5900	10.9773	8.5075
Return on capital employed	0.6677	0.6415	0.7000	0.9110	0.7471	0.6955
Return on equity	292.8810	280.1259	303.5900	102.8037	85.8209	72.6708

Source: Company Annual Report

The above table number 1 represents the profitability position of two different banks for before merger. Looking to the net profit margin ratio, ICICI bank is has performed well on an average compared to bank of Rajasthan. Only in the year 2008, Bank of Rajasthan reported highest net profit margin. Further return on capital employed both the banks have performed equally while ICICI bank beaten target bank in terms of return on equity. The overall performance of ICICI bank is good in terms of profitability position compared to Bank of Rajasthan.

Table 2: Combined Profitability ratio of ICICI BANK of after merger

Particulars (in %)	**2011**	**2012**	**2013**
Net profit ratio	10.2577	11.9079	13.6513
Return on capital employed	1.1837	1.3137	1.5010
Return on Equity	548.9140	688.9757	870.2535

Source: Company Annual Report

Table number 2 represents the combined performance of ICICI bank after merger period under the study. Table clearly indicating that bank has considerably increased the profitability position in after merger period. Net profit margin has constantly increased from 10.2577 to 13.6513 which are the highest for ICICI Bank in this duration. Further talking about return on capital employed and return on equity, bank has reported significant improvement after merger periods. Thus we can interpret that bank is well benefited from the merger deal in terms of profitability position.

4.2 EFFICIENCY RATIO:

Table 3: Efficiency ratios of ICICI BANK and BANK OF RAJASTHAN last three years of prior merger

	ICICI BANK (Bidder bank)			BANK OF RAJASTHAN (Target bank)		
Particulars (in %)	**2008**	**2009**	**2010**	**2008**	**2009**	**2010**
Asset utilization ratio	0.0609	0.0702	0.0751	0.0628	0.0682	0.0822
Advances to deposits ratio	0.8211	0.8695	1.0163	0.5274	0.5368	0.5123
Advances to fixed assets	47.037	51.4811	59.1735	48.5986	62.2447	63.5319

Source: Company Annual Report

The table number 3 indicates the efficiency ratios of both the banks under the study for the selected study periods i.e. before merger. However, both the banks are equal in terms of asset utilization but Bank of Rajasthan has reported highest ratios in the year 2010. Further ICICI bank has done good in terms of advances to deposit ratio compared to target bank. Further again bank of Rajasthan reported more advances to fixed assets ratio which indicates overall bank of Rajasthan has shown good efficiency in before merger period.

Table 4: Combined Efficiency ratios of ICICI BANK of after merger

Particulars	**2011**	**2012**	**2013**
Asset utilization ratio	0.0654	0.0778	0.0699
Advances to deposits ratio	0.9881	1.0361	1.0483
Advances to fixed assets ratio	46.6376	53.7788	60.2862

Source: Company Annual Report

The above table number 4 represents the combined efficiency position of ICICI bank after merger period. Efficiency of the bank did not considerably increased as almost all ratios are equal in before merger periods and after merger period. These can be further tested with the help of hypothesis testing through paired sample t test result. Following is the test of normality output which is essential assumption to carry out paired sample t test. Further correlation analysis has been reported identify the relationship between pairs of before merger performance and after merger performance of ICICI bank.

4.3 Normality Test:

Table 5: Tests of Normality

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Before Net Profit Margin	.352	3	.	.825	3	.176
After Net Profit Margin	.177	3	.	1.000	3	.970
Before Return on Capital Employed	.194	3	.	.996	3	.885
After Return on Capital Employed	.214	3	.	.989	3	.802
Before Return on Equity	.190	3	.	.997	3	.904
After Return on Equity	.201	3	.	.995	3	.859
Before Asset Utilization Ratio	.247	3	.	.969	3	.662
After Asset Utilization Ratio	.238	3	.	.976	3	.700
Before Advances to Deposit Ratio	.293	3	.	.922	3	.459
After Advances to Deposit Ratio	.313	3	.	.895	3	.368
Before Advances to Fixed Asset Ratio	.237	3	.	.977	3	.707
After Advances to Fixed Asset Ratio	.179	3	.	.999	3	.949

Source: SPSS Output

The table number 5 indicates the normality test output for two different test statistics named as Kolmogorov-Smirnov and Shapiro-Wilk test. Looking to the probability values for both the test, we fail to reject the null hypothesis and interpret that data are normally distributed. This can be said from the probability values as all are greater than 0.05. Once data are normally distributed, we can go for parametric test to achieve the mentioned objective in the methodology. Following is the result of paired sample t test for the studied variables.

4.4 Result of Paired Sample t test:

Table 6:- Paired Samples Statistics

		Mean	N	Correlation	Prob. Value
Pair 1	Before Net Profit Margin	9.81	3	-.807	.402
	After Net Profit Margin	11.94	3		
Pair 2	Before Return on Capital Employed	0.67	3	.635	.562
	After Return on Capital Employed	1.33	3		
Pair 3	Before Return on Equity	292.20	3	.520	.652
	After Return on Equity	702.71	3		
Pair 4	Before Asset Utilization Ratio	0.07	3	.517	.654
	After Asset Utilization Ratio	0.07	3		
Pair 5	Before Advances to Deposit Ratio	0.90	3	.817	.391
	After Advances to Deposit Ratio	1.02	3		
Pair 6	Before Advances to Fixed Asset Ratio	52.56	3	.984	.115
	After Advances to Fixed Asset Ratio	53.57	3		

Source: SPSS Output

The above table number 6 indicates the paired sample statistics containing mean value and correlation with probability values. However, looking to mean value for before and after merger period, there seems all profitability and efficiency position of the bank has increased but whether it is statistically significant or not, following interpretation made on the basis of paired t test result. Moreover, table shows correlation coefficient which is very high for almost all pairs but relationship is not statistically significant.

Table 7:- Paired Samples t test statistics

Pairs	Mean Difference	T - Value	Prob. Value
Pair 1	-2.13	-1.43	0.29
Pair 2	-0.66	-8.05	0.02
Pair 3	-410.52	-4.58	0.04
Pair 4	0.00	-0.60	0.61
Pair 5	-0.12	-2.71	0.11
Pair 6	-1.00	-1.29	0.33

Source: SPSS Output

The table number 7 represents the paired sample t test statistics for all six pairs under the study. Generally, paired sample t test measured the significant differences in average performance of the variables under the study. Negative mean differences indicate performance of the bank has improved in terms of given variables. Almost all pairs are showing negative mean difference and only one variable i.e. Asset utilization ratios zero mean differences that means there is no change. Looking to the probability values, all are greater than 0.05 except return on capital employed and return on equity so we interpret that there is no significant differences in mean performance of bank in terms of efficiency of management. However, there is a significant difference in average performance of return on capital employed and return on equity and the difference is negative which indicates there is upside performance increment of bank in terms of profitability position.

5. CONCLUSION:

The present study examines the profitability and efficiency performance of ICICI bank and Bank of Rajasthan when they got the merger deal in the year 2009-10. Further it aimed at identifying the differences in average performance between before and after merger deal. The study employed descriptive research design and necessary secondary data taken from the official website of the company. The paper used profitability and efficiency ratios and applied paired sample t test to measure the significant differences in before and after performance. The study concludes that ICICI banks was good in terms of net profit margin and return on equity while Bank of Rajasthan was good in terms return on capital employed. Further talking about efficiency ratios, ICICI bank is good in terms of assets utilization and advances to deposit ratio while Bank of Rajasthan was good in terms of advances to fixed assets ratio. Further study concludes from the paired sample t test that there is no significant difference in average performance of ICICI bank before and after merger period in terms of efficiency position while there is significant difference in average performance of profitability position of the bank. However, the difference is positive and bank is significantly improved the profitability position especially for shareholders.

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