



Impact of mergers and acquisition (M&A) on the financial performance of the selected banks In India- A Camel approach

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Abstract

Mergers and Acquisitions are major external restricting strategies in corporate sector for expansion and development present business status to the next level. The present study has focused on the measuring the impact of M&A on the financial performance of the selected banks (CA, BOB, BOI, PNB and UBI) for the period 2016-2024. The study adopted CAMEL approach for measuring the financial performance and hypothesis examined through T-test. The found that, capital adequacy ratio was improved during post M&A period i.e. from average 14.67 percent from 11.94 percent. Similarly, quality of assets is improved by reducing proportion of NNPA in total assets during post M&A period i.e. from 6.70 percent to 3.37 percent. The management efficiency decreased by decrease in Return on advances ratio from an average of 8.01 percent to 7.58 percent during post M&A period. However, the study has observed improved in earnings quality and liquidity of the selected banks during post M&A period. In overall, hypothesis supported that, M&A have shown significant impact on the capital adequacy, Asset quality, management efficiency and insignificant impact on the earning quality and liquidity of selected banking in India.

Keywords: Impact of Mergers and Acquisitions, Financial performance of banks, Selected banks in India, Capital adequacy ratio improvement, Reduction in NNPA proportion

Introduction

Mergers and Acquisition is an effective corporate restructure tool in consolidation of banks and Financial Institutions (BFIs) which improves their capital base, business expansion and financial stability Mergers and acquisitions are very popular corporate strategies in use for expansion and development of present firms to the next level of business. This gives advantage to both parties in business growth, operational and financial aspects etc. The M&A are regular phenomenon in corporate world, however, in banking sector this M&A takes place rarely and occasionally either to merge weak bank with financially strong bank or small bank with large bank. Indian Banking sector many private and public sector merged since liberalization phase started and which is continued in 2020 till. In Indian banking sector M&A took place often between weak bank and strong bank rather than small and large banks with an aim to stabilize the banking sector in the country. The M&A in banking sector leads to improvement in productivity, profitability, financial strength, reduce wasteful expenditure, eliminates industrial sickness, tax advantages, besides, it also improves liquidity, management efficiency.

The M&A in Indian banking sector emerged as prevalent strategy exclusively in public sector banking to reduce the number of banks, promote financial stability, increase customer satisfaction and service delivery Besides, large scale of operation is another reason for mergers and acquisition in banking sector which result in better supplier bargaining power and effective use of resources. M&A also improves the asset quality and reduce non-performing assets in banking sector. The study revealed the cross-border M&A impact in banking sector such as improvement in operating and financial performance, technology up gradation, corporate governance, loan quality, expertise and ownership. It also improved the competency of the acquirer

in the industry. observed that positive effect of M&A led in provision of higher value to the stakeholder and assist in reaching top-tier position in the banking sector.

Review of Literature

Amitkumar Prakash Rao Pokale & Mahavir Manik chand Shetiya (2024) ^[1] examined Bank, and Punjab National Bank (PNB). The study found that, among three parameters performance of the Indian banks in terms of profitability, liquidity and asset quality ratios for the period of 2016-20. The study selected banks namely State Bank of India (SBI), HDFC Bank, ICICI Bank, Axis Bank, profitability is major determinant of banks financial performance followed by liquidity and asset quality. The study suggest that banks should maintain health balance among profitability, liquidity and asset quality.

Kiruthika (2024) ^[2] examines the financial performance of Indian banks across public and private sectors during 2019-2024. The study found that focusing on the impact of digital transformation, regulatory changes, and economic recovery post-COVID-19. Using financial ratio analysis, trend analysis, and comparative evaluation. This study research the analyses key performance indicators including profitability, asset quality, capital adequacy, and operational efficiency. The study reveals that the significant divergences in performance patterns between public sector banks (PSBs) and private sector banks, with digital adoption emerging as a critical performance differentiator.

Gopal Bhua & Priyabrata Dehuri (2025) ^[3] the examined assess the financial performance of Indian commercial banks by using CAMEL Model such as capital adequacy, asset quality, management quality, earnings quality, and liquidity in 2025. The study selected from the financial reports of a few Indian commercial bank, several financial ratios and indicators that correlate to each CAMEL model components. The study finds that the overall financial

performance of India's commercial banks is excellent and each CAMEL model component has room for improvement. Suresh & Subhendu Kumar Pradhan (2023) [4] examined the financial performances of selected Public Sector Undertaking Banks (PSUB) and Private Sector Banks (PSB). The study found that banks' efficiency concerning various financial aspects such as stability, liquidity, and profitability and their impact on financial performance. The study selected namely of banks conducted on six Public Sector Undertaking Banks and six Private Sector Banks are selected based on advances as a percentage of deposits with the top three and bottom three banks from the Public Sector Undertaking Banks and Private Sector Banks. According to the report, Private Sector Banks outperformed Public Sector Undertaking Banks (in the areas of CAR, NPA to NA, PPE, ROA, and liquid assets to total deposits concerning the CAMEL approach and consider other indicators of CAMEL components, like the percentage of gross NPA, net profit margin, interest income to total funds, operating expenses to total funds, credit deposit ratio, cash to deposit ratio, and some other samples of banks, to assess the financial performance of banks.

Pawan Kumar, Deergha Sharma, & Ram Karan Singh (2020) [5] examined that the financial health of ten commercial banks working in India by employing Analytical Hierarchy Process. The study found that six financial criteria such as Assets Quality, Capital Adequacy ratio, Liquidity, Earning, Management Efficiency, and Profitability which has been utilized during the period of 2009 to 2018. The study shows that the results of the study shows that capital adequacy ratio is most significant criteria among six criteria opted for the analysis. Besides, the ranking of banks shows that the weightage of the financial ratios plays a critical role rather than size of bank in their financial performance.

Sathyakala Sabapathi, N Shanmugapriya, & T.B. Praveen (2017) examined the attempted to analyse the performance of top 5 public sector banks in India based on market capitalisation. The study found that the behaviour of profitability, efficiency, soundness of the banking system, and financial performance of public sector Indian banks during the period of 2011 to 2016. The study shows that the that competition in the Indian banking industry has intensified and also it shows the development of banks over the years and aims in forecasting of deposits and advances of public sector banks. The study found that the parameters like capital adequacy, asset turnover, management efficiency, earning quality, liquidity has studied by using trend analysis, correlation and camel analysis.

Research Methodology

1. Need of The Study

Merger and acquisition are common corporate strategies used for external reconstruction of weak companies with strong companies. The mergers and acquisitions take form either vertical or horizontal. In general, some banks suffering due to low profitability, low liquidity, high NPA, low capital adequacy, high debt prefer to be merged with

other banks. The anchor banks also prefer to purchase merged banks with intension of expansion of business, tax exemption, and diversification and to become large player industry etc. In Indian banking sector mergers and acquisition incurred many times over a period time. However, recently i.e.2020 six banks merged with four banks namely syndicate bank with Canara bank, bank of India with Indian bank and OBC and UBI with PNB. The aims of merging banks are an expectation of better performance. Thus, present study is examined.

2. Objectives of the study

- To analyze the capital adequacy of the selected banks during pre and post merging period
- To analyze the Asset quality of the selected banks during pre and post merging period
- To analyze the Management Efficiency of the selected banks during pre and post merging period
- To analyze the Earning Quality of the selected banks during pre and post merging period
- To analyze the Liquidity of the selected banks during pre and post merging period
- To examine the impact of mergers and acquisition (M&A) on the financial performance of the selected banks in India

3. Hypothesis

The study has formulated and examined following alternative hypothesis where null hypothesis is implied.

H₁: There is significant impact of M&A on the capital adequacy of selected bank in India

H₂: There is significant impact of M&A on the Asset Quality of selected bank in India

H₃: There is significant impact of M&A on the management efficiency of selected bank in India

H₄: There is significant impact of M&A on the Earning Quality of selected bank in India

H₅: There is significant impact of M&A on the Liquidity of selected bank in India

Research Methodology

Present study is analytical study in nature. The study is purely based on the secondary data collected from the official web site of RBI. The study period of consist of total eight years four years before pre-merging i.e 2016-2020 and four years after merged. 2020-2024. In the study CAMEL technique is used to measure the impact of merges and acquisitions on the financial performance of the selected banks in India. The selected parameters are capital adequacy ratio, Asset Quality, Management efficiency, Earning quality and liquidity. The hypothesis is examined through applying T-test Paired Two Sample for Means. The selected banks in the study are Canara Bank (CB), Bank of Baroda (BOB), Bank of India (BOI), Union Bank of India (UBI) and Panjab National Bank (PNB)

Data analysis and interpretation

Table 1: Capital Adequacy Ratio of Selected Banks in India during pre and post-merger

	Pre-merger					Post-merger				
	2016-17	2017-18	2018-19	2019-20	AVG	2020-21	2021-22	2022-23	2023-24	AVG
CB	11.08	12.86	13.22	11.90	12.27	13.65	13.18	14.90	16.31	14.51
BOB	13.18	12.24	12.13	13.42	12.74	13.30	14.99	15.68	16.24	15.05
BOI	12.01	12.14	12.94	14.19	12.82	13.10	14.93	16.51	16.28	15.21
PNB	11.28	11.66	9.20	9.73	10.47	14.15	14.32	14.50	15.50	14.62
UBI	10.56	11.79	11.46	11.78	11.4	12.81	12.56	14.52	16.04	13.98
AVG	11.622	12.138	11.79	12.204	11.94	13.402	13.996	15.222	16.074	14.67

Source: RBI Annual Report

Table 2: Asset Quality of Selected Banks in India during pre and post-merger

	Pre-merger					Post-merger				
	2016-17	2017-18	2018-19	2019-20	AVG	2020-21	2021-22	2022-23	2023-24	AVG
NNPA to Net Advances										
CB	6.42	6.33	7.48	5.37	6.41	4.22	3.82	2.65	0.68	2.84
BOB	5.06	4.72	5.49	3.33	4.65	3.13	3.09	1.72	2.25	2.55
BOI	7.79	6.90	8.28	5.61	7.15	3.88	3.35	2.34	1.66	2.81
PNB	8.61	7.81	11.24	6.56	8.56	5.78	5.73	4.80	2.72	4.76
UBI	5.25	6.57	8.42	6.85	6.77	5.49	4.62	3.68	1.70	3.87
AVG	6.63	6.47	8.18	5.54	6.70	4.50	4.12	3.04	1.80	3.37
Interest Income to Total Assets										
CB	8.00	7.28	6.87	7.14	7.32	6.90	6.29	5.83	6.56	6.39
BOB	6.36	6.18	6.17	6.63	6.33	6.78	6.10	5.74	6.55	6.29
BOI	6.80	6.36	6.16	6.60	6.48	6.61	5.87	5.21	6.15	5.96
PNB	7.46	6.81	6.46	6.66	6.85	6.70	6.43	5.81	6.13	6.27
UBI	8.19	7.62	6.97	6.94	7.43	7.13	6.56	6.01	6.54	6.56
AVG	7.362	6.85	6.526	6.794	6.88	6.824	6.25	5.72	6.386	6.30

Source: RBI Annual Report

Table 3: Management Quality (Return on Advances) of Selected Banks in India during pre and post-merger

	Pre-merger					Post-merger				
	2016-17	2017-18	2018-19	2019-20	AVG	2020-21	2021-22	2022-23	2023-24	AVG
CB	9.58	8.87	8.04	8.48	8.75	8.39	8.03	7.43	8.00	7.96
BOB	7.34	7.18	7.17	7.67	7.34	8.07	7.17	6.64	7.46	7.33
BOI	7.98	7.49	7.15	7.99	7.65	8.12	7.46	6.57	7.36	7.38
PNB	8.69	7.92	7.46	7.87	7.99	7.70	7.78	6.92	7.35	7.44
UBI	9.05	8.29	7.92	8.12	8.34	8.20	7.68	7.23	7.98	7.77
AVG	8.528	7.95	7.548	8.026	8.01	8.096	7.624	6.958	7.63	7.58

Source: RBI Annual Report

Table 4: Earning Quality (Return on Assets) of Selected Banks in India during pre and post-merger

	Pre-merger					Post-merger				
	2016-17	2017-18	2018-19	2019-20	AVG	2020-21	2021-22	2022-23	2023-24	AVG
Return on Assets										
CB	-0.52	0.20	-0.75	0.06	-0.25	-0.32	0.23	0.48	0.81	0.31
BOB	-0.78	0.20	-0.34	0.06	-0.22	0.06	0.07	1.84	1.03	0.75
BOI	0.94	-0.24	-0.91	-0.84	-0.26	-0.43	0.28	0.43	0.49	0.19
PNB	-0.61	0.19	-1.60	-1.25	-0.82	0.04	0.15	0.26	0.18	0.61
UBI	0.35	0.13	-1.07	-0.59	-0.38	-0.53	0.27	0.47	0.69	0.23
AVG	-0.124	0.096	-0.934	-0.512	-0.37	-0.236	0.2	0.696	0.64	0.33
Return on equity										
CB	-8.86	3.44	-12.19	0.97	-4.16	-5.92	4.62	9.09	15.18	5.74
BOB	-13.48	3.44	-5.81	0.97	-3.72	0.84	1.11	8.93	15.33	6.55
BOI	-19.50	-5.04	-18.23	-14.37	-14.28	-6.92	4.83	6.75	7.05	2.93
PNB	-10.27	3.30	-29.54	-23.24	-14.94	0.63	2.29	3.71	2.57	2.31
UBI	6.34	2.37	-21.39	-11.43	-6.03	-9.62	4.68	7.75	11.33	3.53
AVG	-9.154	1.502	-17.432	-9.42	-8.63	-4.198	3.506	7.246	10.292	4.21

Source: RBI Annual Report

Table 5: Liquidity (Liquid Assets to total assets) of Selected Banks in India during Pre and post-merger

	Pre-merger					Post-merger				
	2016-17	2017-18	2018-19	2019-20	AVG	2020-21	2021-22	2022-23	2023-24	AVG
CB	4.31	4.02	4.21	4.99	4.38	3.61	4.26	4.75	4.66	4.32
BOB	3.78	3.79	3.84	4.17	3.89	3.45	4.02	6.81	4.56	4.71
BOI	6.62	5.06	6.02	5.61	5.83	5.26	9.68	6.42	6.58	6.98
PNB	4.79	4.05	4.48	4.75	4.52	5.46	3.97	7.48	6.10	5.75
UBI	4.55	4.39	5.14	5.00	4.77	4.46	4.10	4.47	4.50	4.38
AVG	4.81	4.262	4.738	4.904	4.68	4.448	5.206	5.986	5.28	5.23

Source: RBI Annual Report

Table 6: T-Test: Paired Two Sample For Means

	Observations	Df	t Stat	t Critical one-tail	P Value	t Critical two-tail
Capital Adequacy	4	3	-5.09697	2.353363	0.01460	3.1824
NPA to Net Advances	4	3	4.769258	2.353363	0.01751	3.1824
Interest Income to Total Assets	4	3	7.088626	2.353363	0.00577	3.1824
Return on Advances	4	3	7.80648	2.353363	0.004375	3.1824
Return on Assets	4	3	-1.6643	2.353363	0.194642	3.1824
ROE	4	3	-2.32153	2.353363	0.10294	3.1824
Liquid Assets to total assets	4	3	-1.55757	2.353363	0.217211	3.1824

Source: Computed from SPSS

Discussion Result

- The study observed that, average capital adequacy of CB increased to 14.51 percent during post M&A period as compared to 12.27 percent before M&A. Similarly, BOB average capital adequacy ratio is increased from 12.74 percent to 15.05 percent during post M&A period. The same trend is observed even in in case of BOI means average capital adequacy increased from 12.82 percent to 15.21 percent during the same period. Similarly, average capital adequacy ratio of PNB climbed significantly to 14.62 percent during post M&A period from 10.47 percent while UBI average capital adequacy ratio also rose to 13.98 percent from 11.40 percent.
- The study observed that, average NNPA to Net advances of CB significantly drop to 2.84 percent during post M&A period as compared to 6.41 percent before M&A. Similarly, BOB average NNPA to Net advances ratio is improved from 4.65 percent to 2.55 percent during post M&A period. The same trend is observed even in in case of BOI means average NNPA to Net advances significantly improved from 7.1 of PNB climbed significantly to 2.81 percent during post M&A period. Similarly, average NNPA to Net advances of PNB improved significantly to 8.56 percent during post M&A period from 4.76 percent while UBI average NNPA to Net advances ratio also rose to 6.77 percent from 3.87 percent.
- The study observed that, average Interest Income to Total Assets ratio of CB significantly drop to 6.39 percent during post M&A period as compared to 7.32 percent before M&A. Similarly, BOB average Interest Income to Total Assets ratio is marginally decreased from 6.33 percent to 6.29 percent during post M&A period. The same trend is observed even in in case of BOI means average Interest Income to Total Assets ratio significantly decreased from 6.48 climbed significantly to 5.96 percent during post M&A period. Similarly, average Interest Income to Total Assets ratio of PNB down significantly to 6.27 percent during post M&A period from 6.56 percent while UBI average Interest Income to Total Assets ratio also drop to 6.56 percent from 7.43 percent.
- The study observed that, average Return on Advances of CB decreased to 7.96 percent during post M&A period as compared to 8.75percent before M&A. Similarly, BOB average Return on Advances ratio is remains constant at 7.34 during pre and post M&A period. Similarly, it is observed even in in case of BOI means average Return on Advances decreased from 7.65 percent to 7.38 percent during the same period. Similarly, average Return on Advances ratio of PNB down significantly to 7.44 percent during post M&A period from 7.99percent while UBI average Return on Advances ratio also drop to 7.77 percent from 8.34 percent during the post M&A period
- The study observed that, average ROA of CB was turned to positive of 0.31 percent during post M&A period as compared to negative value of -0.22 percent before M&A. Similarly, BOB average ROA is turned into positive of 0.75 percent from negative returns of -0.22 percent during post M&A period. The same trend is observed even in in case of BOI means average ROA increased to 0.19 percent from -0.26 percent during the same period. Similarly, average ROA climbed significantly to 0.61 percent during post M&A period from -0.82 percent while UBI average ROA ratio also rose to 0.23 percent from -0.38 percent.
- The study observed that, average ROE of CB was turned to positive of 5.74 percent during post M&A period as compared to negative value of -4.16 percent before M&A. Similarly, BOB average ROE is turned into positive of 6.55 percent from negative returns of -3.72 percent during post M&A period. The same trend is observed even in in case of BOI means average ROE increased to 2.93 percent from -14.28 percent during the same period. Similarly, average ROE climbed significantly to 2.31 percent during post M&A period from -14.94 percent while UBI average ROE ratio also rose to 3.53 percent from -6.03 percent.
- The study observed that, average liquidity of CB decreased to 4.32 percent during post M&A period as compared to 4.38 percent before M&A. Similarly, BOB average liquidity ratio is increased from 3.89 percent to 4.71 during post M&A period. Similarly, it is observed even in in case of BOI means average liquidity ratio

increased from 5.83 percent to 6.98 percent during the same period. Similarly, average liquidity ratio of PNB up significantly to 5.75 percent during post M&A period from 4.52 percent while UBI average liquidity ratio drop to 4.38 percent from 4.77 percent during the post M&A period

- The hypothesis result revealed that, the P value is less than standard value of 0.05 in case of capital adequacy, Asset quality, management efficiency and higher in case of earning quality and liquidity. This is evidence that, hypothesis one, two and three are accepted and four and five are rejected. This implies that, M&A have shown significant impact on the capital adequacy, Asset quality, management efficiency and insignificant impact on the earning quality and liquidity of selected banking in India.

Conclusion

In the study, overall financial performance of the selected banks is measured through CAMEL technique. The study concludes that, capital adequacy ratio was improved during post M&A period i.e. from average 14.67 percent from 11.94 percent. Similarly, quality of assets is improved by reducing proportion of NNPA in total assets during post M&A period i.e. from 6.70 percent to 3.37 percent. The management efficiency decreased by decrease in Return on advances ratio from an average of 8.01 percent to 7.58 percent during post M&A period. However, the study has observed improved in earnings quality and liquidity of the selected banks during post M&A period. In overall, hypothesis supported that, M&A have shown significant impact on the capital adequacy, Asset quality, management efficiency and insignificant impact on the earning quality and liquidity of selected banking in India.

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