

Merging to Become Bigger and Stronger: A Case Study of Vijaya Bank and Dena Bank Merger with Bank of Baroda

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Abstract.

In the rapidly changing business environment firms have to be efficient enough not only to survive but to grow further with a pace fast enough to maintain the edge over the others. To cater the ever growing needs of corporates, banks have to be strong and efficient. Merger wave has engulfed the banking sector as well all over the world and India is no exception to it. In the post-economic reforms era Indian banks witnessed a series of banks mergers and public sector banks were not far behind. The main objective of this paper is to analyse the impact of consolidation on banks performance and efficiency. The present study deals with the analysis of merger of Vijaya Bank and Dena Bank with Bank of Baroda which took place in 2019. The case study approach has been used to compare the financial performance in pre-post period based on CAMEL Model in which three years pre-post window period has been used. The data was analysed using Paired Sample t-test and Wilcoxon Signed Rank Test. The analysis report was generated using SPSS software. The outcomes of Pared Sample T-test found all the parameters namely, Capital Adequacy Ratio, Net NPA to Total Advances, Return on Assets, Operating Profit to Total Asset and Total Investment to Total Deposits improved in three-year window but the improvement was significant in case of NPA only. In the report generated from Wilcoxon Signed Rank Test, all the parameters improved but the improvement was not significant in any of the parameters. Therefore, the study comes to the conclusion that mergers although helped in improving the performance yet, the fair outcomes could be seen in the long run only. Besides the performance of public sector banks could be considered in terms of social impact and not just in terms of immediate monetary benefits.

Keywords: Mergers, Financial Performance, CAMEL, Operating Profits, Bank Consolidation.

Introduction.

Banking sector play a very crucial role in the development of a country. The role of the banks become more important in the developing countries like India where capital required for the development remains generally scarce and the economic activities greatly depend upon credit provisioning through public sector banks sponsored and controlled by the respective governments. The socio-economic development requires fast track growth of the economy and the rapid growth assumes the spread of large network of banking infrastructure as the necessary condition.

Banking Sector in India and Merger Episode.

The history of Indian Banking system trace back to 18th century when The Bank of Hindustan was established in Calcutta. Later on presidency banks were established in presidency towns

of India. After independence the establishment of banking institutions could be divided between two phases: from 1950 to 1991 and 1991 onwards i.e., pre-liberalization and post-liberalization. Before 1991 the banks were operating as independent units catering the needs of customers who were mostly business houses and were not supporting the inclusive policies of the government which required priority sector lending to ensure successful implementation of government anti-poverty programmes and primary sector development. In order to discipline them 14 commercial banks were nationalised in 1969 and another 6 commercial banks were nationalised in 1980. Through nationalization the government regulated the credit provisioning by the banks and ensured their compliance towards socio-economic development of the country.

The post-liberalization phase not only brought about the emergence of private sector banks in the country but also allowed foreign banks to establish their branches and operate under the regulatory norms of RBI. The changed scenario triggered the competition among the banks and public sector banks were forced to consolidate and become bigger and vibrant in order to survive and compete. Private sector banks also merged and series of merger events took place leading to emergence to large banks with huge capital base needed to cater the changing needs of individuals and industry.

There were many factor responsible for banks mergers in India. There were many weak banks struggling to stride forward in the throat cutting competition and in order to make them viable these small and weak banks were consolidated to gain size and vibrancy. Economies of scale was another motive, particularly in modern environment which make the presence of big multinational banks in the country owing to economic liberalization. New technology, coupled with changing new product demands of diverse population required banks to be efficient and for that the inorganic way through mergers was the only option (**Kashyap, 2021**). Besides, outreaching to the rural areas and making way to international markets required strong infrastructure and for that banks needed to merge with other banks locally and with foreign banks for offshore enterprises. State bank of India has become the largest bank in India and one of the largest in the world because of the consolidation that followed in trenches. Similar is the case with HDFC bank and ICICI bank that became the largest private sector banks in India.

Literature Review.

Merger and Acquisition is a strategic move not only to gain the rapid growth and competitive advantages but it also aims to restructure the capital base and value creation for the shareholders. **Gupta (2015)** studied the different cases of merger of banks in India and found mixed responses on the financial gains. In the case related to merger of Bank of Rajasthan with ICICI bank, it was observed that net profit margin improved significantly in post-merger phase. Same was the condition with return on assets and capital adequacy which improved significantly. Net interest margin improved as well. But no significant improvement was observed in case of total income to capital employed and equity holders also could not benefit as return on equity improved insignificantly. In the same study another case of merger between Centurian Bank of Punjab and HDFC was analysed. In this case, significant improvement was found for ratios such as NPM, ROA, ROE and deposit ratio but again, no significant improvement was observed in total income to capital employed and CASA.

Tripathi and Ahuja (2020) in their research paper related to case study of SBI merger with its associate banks, analysed the impact of merger on financial performance related to per employee and per branch. It was obvious that the number of employees and number of branches both increased due to absorption. But the performance could not follow the improvement path. Deposits per branch and business per branch both improved but the improvement was not significant. Profit per branch actually decreased in the post-merger period. This may be because of absorption of the losses of subsidiary banks and increase in operational and non-operational costs. Again there is no difference in net interest margin between pre and post-merger of SBI. In fact the net interest margin actually declined in the post-merger period in comparison to pre-merger period. Non-interest income also decreased in the post-merger period, so was the case of non-operating expense which also increased leading to slight decrease in profitability in the post-merger period.

Kumar and Sinku (2021) in their study on SBI and ICICI bank merger analysed the operating and financial performances of both the banks in the post-merger period in order to compare the performance to judge the efficacy of merger. The study used CAMEL Model to compare the performances in pre-post phase. In three year pre-post performance measures, little but insignificant improvement in the performances of SBI was observed. But the same study could not find any improvement in ICICI bank performances in post-merger period. Capital adequacy ratios of SBI improved (although insignificantly), managerial efficiency in terms of profitability deteriorated, earning efficiency deteriorated but liquidity aspect improved. In case of ICICI bank, the capital adequacy improved, asset quality and managerial efficiency both deteriorated, earning quality remained the same but again the liquidity aspect improved. Overall it could be concluded that performance could not improve as desired but it would be difficult to give a judgement on performance in such a short period of three years as it takes time to bear fruits of mergers. But it is sure that consolidation helped both the banks to build upon size and capital which could help in future to bank upon.

Visalakshi and Kurian (2019) in another study related to case study of SBI bank merger with its associate banks analysed the efficiency parameters of banks in pre-post comparison. The study found huge positive differences in terms of deposits and advances and both improved significantly in post-merger period. Assets of SBI increased significantly which is obvious, but business per employee improved significantly two years after the merger, is a significant aspect that reflect the operational synergy of merger. Net profit on the other hand declined due to increase in operating cost and high cost of funds (financial cost). Net interest margin slightly decreased which could be justified because non-performing asset increased thus creating a dent in interest income. But again, despite increase in cost of funds and increased NPAs and decrease in profitability, the banks improved upon the strength in terms of customer base and improved infrastructure in terms of branches and ATMs which will accelerate the growth rate in future leading to improved performance overall over a period of time.

The motives of mergers should be taken into consideration while analysing the impact of mergers. **Kotnal (2016)** in her study of SBI merger analysed the impact to judge the effectiveness in terms of efficiency and financial performance, found some mixed outcomes in post-merger period. The analysis was oriented towards comparing the pre-post performances on parameters such as: profit margin, ROCE, ROE, D/E ratios and others. Independent sample T-test found insignificant improvement on almost all parameters,

indicating that mergers aimed broader aspect than mere financial performances in short run. The merger impact could be visualized in long term, besides the immediate objectives may be interest of general public and policy matters which consider the aspects beyond financial outcomes.

Objectives of the Study.

1. To study the effect of merger of Bank on physical and financial aspects.
2. To study the impact of merger on financial performance of banks.

Research Hypothesis.

H0: There is no significant difference between pre-merger and post-merger financial performance of the bank.

Research Methodology.

This paper is based on descriptive and analytical methodology in which secondary data related to physical and financial aspect has been collected from banks financial statement and moneycontrol.com. This research work is a **case based study of Bank of Baroda which absorbed Vijaya Bank and Dena Bank in 2019**. The study includes analysis of three year pre-merger and three year post-merger comparison of physical and financial data related to Bank of Baroda along with pre-merger statistics of Vijaya Bank and Dena Bank. To analyse the financial performance of Bank of Baroda in pre-post period **CAMEL Model** has been used.

CAMEL rating is one of the most popular way to analyse the overall operational and financial efficiency of banks. It was developed first in the US in 1970s and was adopted by RBI in India in 1996 on the recommendation of Padmanabham Working Group recommendation (1995). CAMEL stands for: C-Capital Adequacy, A- Asset Quality, M- Management Efficiency, E- Earning Quality and L- Liquidity (**Jha, 2021; Biswas and Bhattacharya, 2020**). In this study the ratios considered under CAMEL framework are: Capital Adequacy Ratio (CAR %), Net NPA to Total Advances (NNPAPTA %), Return on Assets (ROA %), Operating Profit to Total Assets (OPPTA %) and Total Investment to Total Deposits (TIPTS %). To analyse the financial performance of Bank of Baroda, pre-post financial data related to CAMEL parameters has been analysed using **Paired ample T-test and Wilcoxon Signed Rank Test** statistical tool through SPSS software.

Study of financial performance of Vijaya Bank and Dena Bank prior to merger.

Established in 1931 in Bengaluru, Vijaya Bank became a scheduled commercial bank in 1958. It became a prominent bank after absorbing 9 smaller banks during 1968-69 and was one of the most popular banks in southern states of India with wide presence of network and sound financial records. **Table 1** provides some of the financial data of Vijaya Bank before merger in 2019 with Bank of Baroda. Its wide network of presence is evident from the statistics as the number of branches which was 1863 in 2016 rose to 2136 in 2018. The number of employee providing their services to the bank was also on increase from 14544 in 2016 to 16079 in 2018. The Deposits with bank was continuously on rise from 2016 to 2018 and same was the case with the advances the bank made to the customer which also increased from Rs. 12544.72 Cr. in 2016 to Rs. 157287.54 Cr. in 2018. Non-performing Assets to total advances was too within limit. It hovered around 4 % which can be considered manageable to an extent. Manageable NPA is an indication that bank has reasonably good operational efficiency. With its absorption in 2019, Bank of Baroda increased its operational reach deep

into the southern states such as Kerala, Karnataka Andhra and Tamil Nadu. The merger had provided Bank of Baroda the necessary economies of scale and it became a prominent bank of western and southern states helping it to cater the needs of large number of premier customer base. This merger helped Bank of Baroda to become 3rd largest lender among Indian banks just behind State Banks of India and HDFC bank.

Table 1.

VIJAYA BANK STATISTICS BEFORE MERGER			
Particulars	2018	2017	2016
No. of Branches	2136	2136	1863
No. of Employees	16079	15679	14544
Deposits Cr. (Rs.)	157287.54	133011.95	125440.72
Advances Cr. (Rs.)	116165.44	94548.89	88986.96
Net NPA/Advances %	4	2	5

Source: Author’s compilation from Vijaya Bank Balance sheet from moneycontrol.com.

Figure 1 below shows the graphical representation of number of branches, number of employees working with Vijaya Bank, amount of deposits of public with the bank and amount of advances the bank has extended to the customers before merger with Bank of Baroda in 2019. As clearly evident from the figure, all the statistical values were increasing over the years from 2016 to 2018.

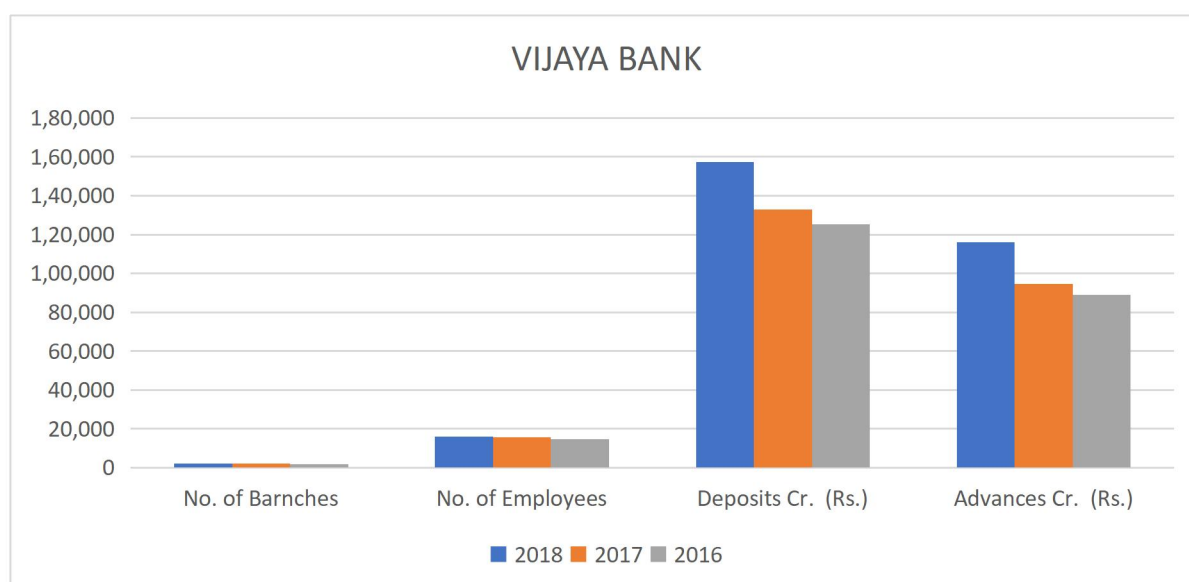


Figure 1. Vijaya Bank statistics before merger.

Source: Author’s compilation from financial statement through excel.

Dena Bank was a major bank which had its presence in the western India. It was established in 1938 and Mumbai was its headquarters. The bank was one of the 14 banks that were

nationalised in 1969 during first wave of nationalization by government of India. Before merger with Bank of Baroda, Dena bank financial position was not sound. This was one of the five banks that were put on watch list due to burgeoning NPA and heavy losses over the years. **Table 1** provide statistical figures of Dena Bank before merger. Dena bank also had a vast presence in western India. The number of branches in 2016, 2017 and 2018 were 1846, 1874 and 1872 respectively. The number of employees started decreasing continuously over the years and it fell from 13985 in 2017 to 13613 in 2018. The deposits with the banks also fell from Rs. 117430.96 Cr. in 2016 to Rs. 113942.77 Cr. in 2017 to Rs. 106130.14 Cr. in 2018. Again the advances extended by the bank also fell from Rs. 82328.33 Cr. in 2016 to Rs. 72574.62 Cr. in 2017 to Rs. 65581.51 Cr. in 2018. But the most alarming aspect was the losses it suffered and the increasing NPA over the years. It is clear from the table that NPA grew to 12 % in 2018 from 6 % in year 2016. The main motive of the absorption of Dena Bank with Bank of Baroda was to transfer its assets to more vibrant bank so that losses could be managed and to benefit the customers whose deposits were at stake.

Table 2.

DENA BANK STATISTICS BEFORE MERGER			
Particulars	2018	2017	2016
No. of Branches	1872	1874	1846
No. of Employees	13613	13985	13906
Deposits Cr. (Rs.)	106130.14	113942.77	117430.96
Advances Cr. (Rs.)	65581.51	72574.62	82328.33
Net NPA/Advances %	12	11	6

Source: Author's compilation from Dena Bank Balance sheet from moneycontrol.com.

Figure 2 below shows the graphical representation of number of branches, number of employees working with Dena Bank, amount of deposits of public with the bank and amount of advances the bank has extended to the customers before merger with Bank of Baroda in 2019. As clearly evident from the figure, all the statistical values were decreasing over the years from 2016 to 2018. The figure clearly shows the sorry state of affairs of Dena Bank that is why, it was a prudent decision to merge this bank with bigger bank like Bank of Baroda.

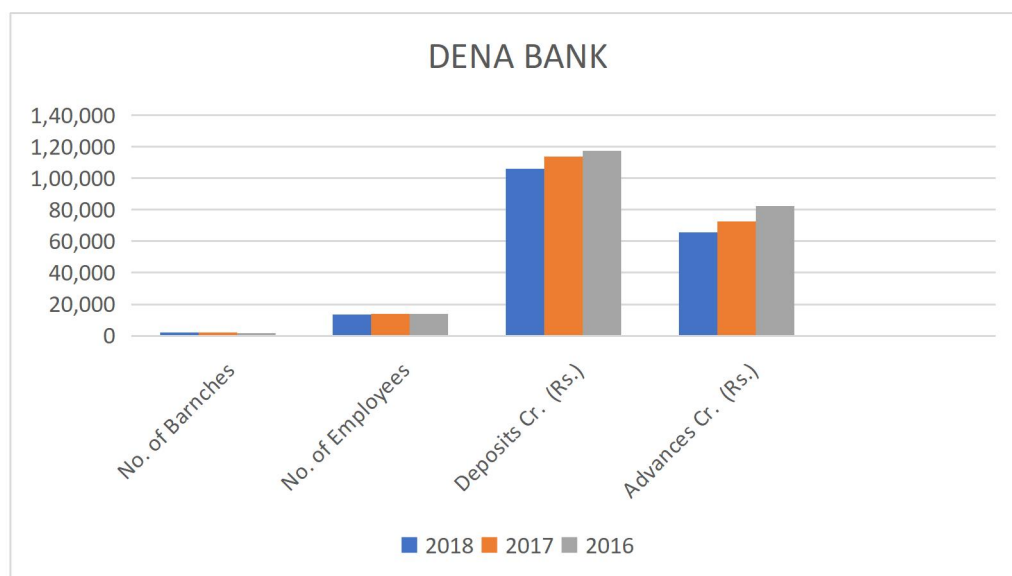


Figure 2.
Source: Author's compilation from financial statement through excel.

Financial Performance of Bank of Baroda before and after Merger.

After the approval of merger of Vijaya Banks and Dena Bank with Bank of Baroda, the Bank of Baroda became third largest lending bank in India behind SBI and HDFC. BOB is expected to make 22 % market share in Gujarat alone and is supposed to be a major player in western India. The merger aimed at improving operational synergy of the bank and reducing the NPA further. **Table 3** provides the financial performance of BOB in three years pre-post window. The Capital Adequacy ratio improved from 12.82 in three year average prior to merger to 14.71 in three year average in post-merger period. Asset quality measured by Net NPA to Total Advances improved from 5 % to 2.67 % in the same window period. Return on Assets which measures the managerial efficiency rose from -0.31 in three years pre-merger average to 0.22 in post-merger three years average. Earning Quality which is measured by Operating Profit to Total Assets also improved from -1.19 in three years pre-merger average to -0.71 in post-merger average of three years. And again, the liquidity ratio which has been measured by Total Investment to Total Deposits improved from 24.71 to 28.74 in the same window period average. Now it is quite obvious from statistics provided from table below that all CAMEL parameters improved in the post-merger period in comparison to pre-merger period. This appears that more or less the objective of consolidation has been achieved to an extent. Besides, the consolidated physical infrastructure become more vibrant that is supposed to provide further strength to the financial position of the bank in future.

Table 3. Financial Performance of Bank of Baroda

Financial Performance of Bank of Baroda for Three Years Pre-post Merger						
CAMEL PARAMETER	Ratios	Pre-merger	Values	Post-merger	Values	Remarks
Capital Adequacy	CAR %	2018	12.13	2022	15.84	
		2017	13.17	2021	14.99	
		2016	13.17	2020	13.3	
		Average	12.82	Average	14.71	Improvement

Asset Quality	Net NPA/Total Advances %	2018	5	2022	2	
		2017	5	2021	3	
		2016	5	2020	3	
		Average	5	Average	2.67	Improvement
Managerial Efficiency	ROA %	2018	-0.33	2022	0.56	
		2017	0.19	2021	0.07	
		2016	-0.8	2020	0.04	
		Average	-0.31	Average	0.22	Improvement
Earning Quality	Operating Profit/ Total Asset %	2018	-1.26	2022	-0.32	
		2017	-0.77	2021	-0.99	
		2016	-1.54	2020	-0.84	
		Average	-1.19	Average	-0.71	Improvement
Liquidity	Total Investment/ Total Deposits %	2018	27.59	2022	30.19	
		2017	21.54	2021	27.01	
		2016	20.98	2020	29.02	
		Average	24.71	Average	28.74	Improvement

Source: Author's compilation from Bank of Baroda Balance sheet.

Results, Analysis and Testing of Hypothesis.

Table 4 shows the report of data analysis of Paired Sample T-test generated through SPSS software. For pair 1 which compares capital adequacy ratio of average of three years pre-merger with average of post-merger, has mean values of -1.88667 and standard deviation 1.79093. T value is -1.825 which is less than absolute value of 2 which is not so high. And the Sig. value is 0.210 which is greater than 0.05, hence change is not significant, and therefore, null hypothesis is not rejected at 5 % significance level. For pair 2 which compares NPA percentage to total advances, mean value is 2.33 and standard deviation is 0.57735. T value is 7 which is much higher than 2 with sig. value 0.020 which is much lower than 0.05, hence the difference is found to be significant and null hypothesis gets rejected. For pair 3, which compares Return on assets, T value is -1.633 which is lower than 2 and Sig. value is 0.244 which is much higher than 0.05, hence it failed to reject the null hypothesis. For pair 4 and pair 5 both, the significance values are 0.312 and 0.076 respectively which are higher than 0.05 hence again null hypothesis are not rejected. Therefore, it appears that although there is improvement in values of all parameters, yet the difference is found to be significant only in case of NPA percentage.

Table 4. Paired Sample T-test.

	Mean	Std. Deviation	t	Sig. (2- tailed)	Null Hypothesis
Pair 1 CARPRE - CARPOST	-1.88667	1.79093	-1.825	.210	Not Rejected
Pair 2 NNPAPTAPRE - NNPAPTAPOST	2.33333	.57735	7.000	.020	Rejected
Pair 3 ROAPRE - ROAPOST	-.53667	.56924	-1.633	.244	Not Rejected
Pair 4 OPPTAPRE - OPPTAPOST	-.47333	.61232	-1.339	.312	Not Rejected

Pair 5 TIPTDPRE - TIPTDPOST	-5.37000	2.72138	-3.418	.076	Not Rejected
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Source: Author’s compilation of output generated from SPSS 22

Table 5 shows the statistical analysis of same CAMEL parameters through **Wilcoxon Signed Rank Test** generated through SPSS. The Z values of pairs 1 to 5 are -1.604, -1.635, -1.069, -1.069 and -1.604 respectively, each one is less than absolute value of 2. Similarly, the Sig. values of all 5 pairs are 0.109, 0.102, 0.285, 0.285 and 0.109 respectively, all values being more than 0.05 at 95 % confidence level, hence null hypothesis for all parameters are not rejected. Therefore, mergers could not impact the bank performances significantly in three years window period in pre-post analysis.

The reasons for merger not impacting the financial performances significantly could be many. Firstly, three years window period is not a significant time frame to judge the efficacy of episode like merger. Secondly, one loss making bank was merged with Bank of Baroda which could have nullified the impact little bit as losses has to be compensated against the profits of profit making banks. Similarly operational and HR issues take time to get settled and hence three years window is not long enough to give judgement of performances outcomes in post-merger phase. And lastly, only five parameters have been taken for analysis which are not exhaustive enough to demonstrate the overall performances of bank in post-merger period.

Table 5. Wilcoxon Signed Rank Test. Test Statistics^a

	CARPOST - CARPRE	NNPAPTAPOST - NNPAPTAPRE	ROAPOST - ROAPRE	OPPTAPOST - OPPTAPRE	TIPTDPOST - TIPTDPRE
Z	-1.604 ^b	-1.633 ^c	-1.069 ^b	-1.069 ^b	-1.604 ^b
Asymp. Sig. (2-tailed)	.109	.102	.285	.285	.109

a. Wilcoxon Signed Ranks Test b. Based on negative ranks. c. Based on positive ranks. Source: Author’s compilation of output generated from SPSS 22

Findings and Conclusions.

Mergers and Acquisitions are one of the tested and tried mechanism to achieve growth (both financial and physical) through inorganic way. Banking mergers in India has two dimensions and both are quite different from each other. On one hand private sector banks opt to merge to achieve competitive edge in order to beat the increased competition and to increase the customer satisfaction of premium customer by prompt service and innovative products offerings. Public sector banks on the other hand, mostly resorted to consolidation of weak banks with larger and stronger banks to take care of broader socio-economic perspective of social justice and empowerment. This research also is an example of public sector banks merger to protect the public deposits of customers of comparatively weaker bank that is, Dena Bank which was making losses and NPA was also rising. The Paired Sample T-test and Wilcoxon Signed Rank Test statistical analysis reports clearly shows that except NPA none of the other factors such as Capital Adequacy, Return on Assets, Operating Profit and Total Investment to Total Deposits improved significantly. Although the broader objective of

consolidation was achieved as all ratios improved and public money with Dena Bank was also protected, but improvement was not significant enough. The outcomes of this study was in line with the research work by **Thippeswami and Bheemanagouda (2021)**, whose study on SBI merger found similar results, that is, broader objectives of the merger were achieved as there was all-round improvement but the improvement was not significant enough to reject the null hypothesis.

Therefore, this study concludes that the merger almost achieved its objectives and the outcomes should be considered taking into consideration the social obligation of public sector banks that can not overemphasise the immediate monetary benefits and it should always be considered taking into consideration of long term impact.

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