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IMPACT OF MERGER ON ACQUIRING BANK PERFORMANCE: A CASE OF KOTAK MAHINDRA BANK

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Abstract: *The present paper is an attempt to investigate the effect of a merger in the performance of Kotak Mahindra Bank. It has been found that merger has a significant importance in the performance of an organisation. For this paper, we study the pre- and post-merger performance of Kotak Mahindra Bank with ING Vyasa with effect from April 1, 2015. The study emphasizes on verification of proposed merger benefits including improved asset diversification, enhanced product delivery systems, and a reduction in operating and funding costs and analyses the operating efficiency post the merger. From the study, it is observed that Kotak Mahindra Bank had a stable financial performance during the last 16 quarters that is 4 years. Among all these quarters, the last 4 quarters showed slightly lower performance in terms of net income margin, earnings per employees, business per employees, debt equity ratio, proprietary ratio, and current ratio. These can be due to the increment cost which might have been occurring due to the merger with ING Vysya.*

Keywords: *Cost to Income Ratio, Net Interest Income Margin, Business per Employee, Earnings per Employee, Capital Adequacy Ratio*

INTRODUCTION

Banking system in India has tremendously earned outstanding achievements in a comparatively short time. The main pillars which supported the growth of this sector are the successful mergers and acquisitions from 1993. The very first bank merger took place in 1993, when the New Bank of India was merged with Punjab National bank (PNB). There were different committees which were set up to file report on Indian banking industry like the Narasimham committee and Raghuram Rajan Committee which stressed on the importance of bank mergers. They recommended that merger of large banks would make them stronger and also would make them technologically advanced which would showcase a better performance in the growing economy.

Merger is the legal activity in which two or more organisations combine and only one firm survive as a legal entity (Horne & John 2004). Merger and acquisition are not the same terminologies but often it is used interchangeably. In acquisition, one organisation purchases a part or whole of another organisation. While in merger, two or more organisations constitute one organisation (Alao, 2010). As per Georgios (2011), in a merger, two or more firms approach together and become a single firm while in acquisition, big and financially sound firm purchases the small firm. Khan (2011) described the definition of merger as two or more firms come close together and form one or more firms. Durga, Rao, and Kumar (2013) view of mergers and acquisitions as activities involving takeovers, corporate restructuring, or corporate control that changes its ownership structure.

Bank Profile

The Kotak Mahindra Group was founded in 1985 by UdayKotak and came to be known as Kotak Capital Management Finance Limited, promoted by UdayKotak, Sidney A. A. Pinto, and Kotak & Company. In 2014, ING Vysya Bank was merged with Kotak Bank for a deal valued at Rs15,000 crore (US$2.2 billion). With the merger, the total human resource count jumped to almost 40,000 heads and the count of branch reached 1261. Post the merger, ING Group which controlled ING Vysya Bank will own 7% share in Kotak Mahindra Bank. They indirectly motivate the public sector banks by offering a healthy competition to them. In this article, we conduct a study to analyse and evaluate the financial performance of Kotak Mahindra Bank before and after the merger.

The Merger Deal

On November 20, 2014, Kotak announced the merger with ING Vysya in an all-stock deal worth Rs. 148.51 billion or US$2.4 billion. On regulatory approval, all of ING Vysya's branches and businesses merged with Kotak. ING Vysya's shareholders got 0.725 share of Kotak stock for every one stock of ING Vysya they held i.e., 725 shares of Kotak for every 1,000 shares of ING Vysya. This exchange ratio indicated that the implied price of each stock of ING Vysya was Rs. 790 which was based on the average stock price of Kotak and ING Vysya for one month – from October 20, 2014, to November 19, 2014 – which came to Rs. 1089.50 and Rs. 682 respectively.

Synergies Out of the Merger

The merger increased the geographical presence and further deepened Kotak's network, thanks to the complementary network of ING Vysya. The merger increased Kotak's number of branches and its ATMs network by 47% and 35% to 1,214 and 1,794 respectively. Before the merger, 80% of the Kotak's branches were in the western and northern parts of the country and only 15% were in the southern part of India. On the other hand, ING Vysya had a greater presence in the southern part of the country with 64% of its branches located there and only 32% its branches in the western and northern parts of the country. After the merger, Kotak had a balanced presence in different parts of the country

Significance of the Study

It has been found that merger has significant importance in increasing the performance of an organisation. ING Vysya Bank merging with Kotak Mahindra Bank consolidates KMB's position as the fourth largest private sector bank in India. This merger brings together two strong players in the industry to form a more robust and fundamentally sound bank. ING Vysya Bank has been a respected name in Indian banking, with a sterling legacy spanning eight decades.

This article focuses on analysis and evaluation of the pre and post-merger performance of Kotak Mahindra Bank after the merger with ING Vyasa Bank which took place in 2014.

REVIEW OF LITERATURE

Mergers and acquisitions have become essential components of corporate restructuring. A wide range study has been conducted on mergers and acquisition in different sectors not only in India but around the world. Both national and International articles were reviewed for justifying the objectives and hypotheses set.

International

Moctar and Xiaofang (2014) in their case study, "The impact of mergers and acquisition on the financial performance of West African banks: A case study of some selected commercial banks" have reviewed the liquidity of the banks and the effects of financial performance of the banks after M&A in the short and long run. The study reveals that performance and investment variables decrease in the period of M&A and increase two or three years later. This means that in West Africa, M&A have significant short and long term positive effects on the liquidity of banks, while a negative effect in short term and a positive effect in long term on the performance and investment valuation variables were found.

Badreldin and Kalhoefer (2009) have measured the performance of Egyptian banks that have undergone mergers during the period 2002-2007. This is done by calculating their return on equity using the Basic ROE Scheme in order to determine the degree of success of banking reforms in strengthening and consolidating the Egyptian banking sector. The findings indicate that not all banks that have undergone deals of mergers or acquisitions have shown significant improvements in performance and return on equity when compared to their performance before the deals.

Marina, Sjoerd, and Luc (2007) investigated the long-term profitability of corporate takeovers in Europe, and found that both acquiring and target companies significantly outperformed the median peers in their industry prior to the takeovers, but the profitability of the combined firm decreased significantly following the takeover. However, the decrease became insignificant after controlling for the performance of the control sample of peer companies.

Mylonidis and Kelnikola (2005) explore the merging activities in Greek banking system. The main purpose is to access the financial performance of the recent mergers and acquisitions in Greek banking system. The methodology used to access the financial performance is the operating performance (OP) of the banks by observing the pre- and post-merger financial performance of the Greek banks. Profits, operating efficiency, and labour productivity ratios of the bidding and targets banks do not improve after merger, but when compared with the ratios of non-merging banks, we conclude that the merger programme has a positive impact on banks' operating performance but a negative impact on liquidity measure.

Cybo-Ottone and Murgia (2000) studied 54 mergers and acquisitions deals covering 13 European banking markets of the European Union and the Swiss market for the period 1988 to 1997 and found positive and significant increase in the shareholder value of bidder and target banks at the time of the deals announcement.

Akhavein, Berger, and Humphrey (1997) examined the price and efficiency effect of mega mergers on US banking industry and found that after merger banks have experienced higher level of profit efficiency than before merger.

National

Goyal and Joshi (2011) gave an overview on Indian banking industry & highlighted the changes occurred in the banking sector after liberalisation. This study examined the need for M&A in Indian banking sector. It also gave the idea of changes that occurred after M&A in the Indian banking sector in terms of financial, human resources, and legal aspects. It also described the benefits that come out M&A & examined that M&A is a strategic tool for expanding their horizon and companies like the ICICI bank has used merger as their expansion strategy in rural market to improve customer base and market share. The sample of 17 mergers of post-liberalisation period was taken.

Gorlay and Weyman-Jones (2006) analysed the efficiency gains from mergers among Indian banks over the period 1991-92 to 2004-05 and observed that the merger led to improvement of efficiency for the merging banks.

Bhattacharyya, Lovell, and Sahay (1997) used DEA to measure the productive efficiency of 70 Indian commercial banks in the period 1986-1991. They found that the public sector banks are the most efficient banks as compared to foreign banks and private banks. They also found a temporal decline in the performance of public sector banks.

OBJECTIVES OF THE STUDY

- To study the impact of mergers on Kotak Mahindra Bank performance.
- To compare the pre and post-merger performance of Kotak Mahindra Bank.
- To give suggestions based on findings of the study.

HYPOTHESES

Following were the null hypotheses considered for the study.

- H0a: There is no significant difference in the profitability ratios between pre- and post-mergers.
- H0b: There is no significant difference in the efficiency ratios between pre- and post-mergers.
- H0c: There is no significant difference in the capital adequacy ratios between pre- and post-mergers.
- H0d: There is no significant difference in the liquidity ratios between pre and post-mergers.

RESEARCH METHODOLOGY

- Data Sources: The study is primarily based on secondary data. The financial data are collected from the quarterly financial reports of KMB from 2013 – 2016. Investment websites, websites of the BSE and NSE and related articles have been used to collect data. Quarterly data from 2013- 16 have been taken in order to evaluate the performance of the bank before the merger and after the merger. Total sixteen quarters from financial year 2013 to 2016 were considered for the purpose of comparison. The quarters from 2013 & 2014 were considered for pre-merger and 2015 & 2016 as post-merger period.
- Financial Indicators: For measuring the financial performance of the bank during the pre and post-merger the following ratios were used: return on equity, return on asset, cost to income ratio, net interest income margin, total investment to total assets, total advances to total assets ratio, allowances to loan assets ratio, earnings per employee, business per employee, capital adequacy ratio, debt-equity ratio, proprietary ratio, current ratio, absolute liquid ratio, and customer deposits to total assets.

Table 1: Statement Showing the Financial Indicator Formula

Sl. No.	Financial Indicators	Formula
1	Return on Equity(ROE)	(Net Profit after Interest and Tax/ Shareholders equity) *100
2	Return on Asset (ROA)	Net Income after Tax/ Total assets
3	Cost to Income Ratio (CIR),	(Operating expenses/ Net Interest & Non-interest income) *100
4	Net interest Income Margin (NIIM)	(Net Interest Income/ Average Earning Assets)*100
5	Total Investment to Total Assets (TITAR)	(Total Investment/ Total Asset) *100
6	Advances to Total Asset (TATAR)	(Total advances/ Total Asset)*100
7	Advances to Loan Assets Ratio (ALAR)	(Total advances/ Loan Assets)*100
8	Earnings Per Employee (EPE)	EBIT/ No. of employees
9	Business Per employee (BPE)	Total Business/ No. of employees
10	Capital Adequacy Ratio (CAR)	(Capital Fund/ Risk weighted assets & off balance sheet items)*100
11	Debt-Equity Ratio (DER)	Outsiders fund/ Shareholders equity
12	Proprietary Ratio (PR)	Total assets/ Owners fund
13	Current Ratio (CR)	Current Assets/ Current Liabilities
14	Absolute Liquid Ratio (ALR)	(Cash or cash equivalents/ Current Liabilities)*100
15	Customer Deposits Ratio (CDR)	(Customer deposits/ Total Assets) *100

Source: Bank Financial Management, IIBF.

- **Statistical tools:** Various tools have been used to analyse the performance of Kotak Bank before and after merger. Arithmetic Mean (AM), Average Annual Growth Rate (AAGR), Standard Deviation (SD), correlation coefficient, and student t –test were used to analyse the variations in the financial indicators.

INTERPRETATION

- Return on Equity (ROE): The return on equity position has shown the highest growth by 4.62% in Q4 FY2012-2013 and the least value of 1.96% in Q1 FY 2016. The statistical analysis shows that the pre-merger return on equity ratio position was better than the post-merger. The arithmetic mean of pre-merger return on equity ratio was 3%% with an average annual growth rate of 3.27%. Post- merger ratio also have a higher uniformity with a low standard deviation of 0.52%.the post-merger position showed that return on equity ratio was low with an arithmetic mean of 2.41%, average annual growth rate of -12.22% and high standard deviation of 0.69%.

- Return on Assets (ROA): It was examined that the highest value of 1.08% was observed in Q4 FY2012-2013 and the least value of 0.58% in Q3 FY 2015. The statistical analysis shows that the pre-merger return on total assets ratio position was better than the post-merger. The arithmetic mean of pre-merger return on total assets ratio was 0.93% with an average annual growth rate of 1.18%. Pre-merger ratio also has a higher uniformity with a low standard deviation of 0.15 %. The post-merger position showed that return on equity ratio was low with an arithmetic mean of 0.76%, average annual growth rate of -8.32% and standard deviation of 0.19 %.

- Cost to Income Ratio (CIR): The highest value of 53.56% was observed in Q4 FY2013-2014 and the least of 43.51% in Q1 FY 15. The statistical analysis shows that the pre- merger cost to income ratio position was better than the post-merger position. The arithmetic mean of pre-merger cost to income ratio was 51% and has a higher uniformity with a low standard deviation of 2.86%. The post-merger position showed that cost to income ratio with an arithmetic mean of 50.04% and high standard deviation of 3.50 %. The average annual growth of post-merger is high with 5.59% than that of the pre-merger growth.

- Net Interest Income Margin (NIIM): The highest value of 1.86% was observed in Q4 FY2012-2013 and the least of 0.92% in Q3 FY 2015. The statistical analysis shows that the pre-merger net interest income margin position was better than the post-merger one. The arithmetic mean of pre-merger net interest income margin position was 1.50% with an average annual growth rate of 3.80%. Pre- merger ratio also has a higher uniformity with a low standard deviation of 0.25%. The post-merger position showed that net interest income margin position was low with an arithmetic mean of 1.31%, average annual growth rate of -17%, and high standard deviation of 0.43 %

- Total Investment to Total Assets Ratio (TITAR): It was observed that the highest value of 34.50% was observed in Q4 FY2012-2013 and the least of 24.10% in Q3 FY 2016. The statistical analysis shows that the pre-merger total advances to total investment ratio position was better than the post-merger position. The arithmetic mean of pre-merger total advance to total asset ratio was 29.01% average annual growth rate was 1.73% compared to that of post-merger. The post-merger ratio also has a higher uniformity with a low standard deviation of 1.09%.

- Total Advances to Total Asset Ratio (TATAR): Total advances to total asset ratio was observed highest of 63.87% in Q1 FY 2015 and the least of 57.91% in Q4 FY 2013. The statistical analysis shows that the post-merger total advances to total asset ratio position was better than the pre-merger position. The arithmetic mean of post-merger total advances to total asset ratio was 62.70% with an average annual growth rate of 0.22%. Post-merger ratio has uniformity with a standard deviation of 0.94%. The pre-merger position showed that total advances to total asset ratio was low with an arithmetic mean of 61.92%, average annual growth rate of -0.08%, and standard deviation of 0.94 %.

- Allowances to Loan Assets Ratio (ALAR): Total allowance to loan assets ratio was observed highest of 7.35 % in Q4 FY2014-2015 and Q2 FY 2015 and the least of 5.86% in Q4 FY 2014. The statistical analysis shows that the pre-merger allowance to loan assets ratio position was better than the post-merger position. The arithmetic mean of pre-merger allowance to loan assets ratio was 27.77% with an average annual growth rate of 0.01%. The post-merger ratio also has higher uniformity with low standard deviation of 0.34%. The post-merger position showed that total advances to total asset ratio was low with an arithmetic mean of 6.94%, average annual growth rate of -3.83%.

- Earnings per Employee (EPE): The post-merger earnings per employee position was better than the pre-merger position. The arithmetic mean of post-merger business per employees was 0.04% and with a low average annual growth rate of -11.68%. Both pre-merger and post-merger ratios have same uniformity with the same standard deviation of 0.01%. The pre-merger position showed that earnings per employee ratio was low with an arithmetic mean of 0.03%, with a high average annual growth rate of -4.15%, and same standard deviation of 0.01 %.

- Business per Employee (BPE): The highest value of 6.47 was observed in Q4 FY2015-2016 and the least of 2.51 in Q1 FY 2013. The statistical analysis shows that the post-merger business per employee position was better than the pre-merger position. The arithmetic mean of post-merger business per employee was 16.23% and with a low average annual growth rate of -4.40%. Post- merger ratio also has a higher uniformity with a low standard deviation of 0.31%.the pre-merger position showed that business per employee ratio was low with an arithmetic mean of 3.37%, with a high average annual growth rate of 0.37%, and high standard deviation of 1.03 %.

- Capital Adequacy Ratio (CAR): It was observed that the capital adequacy position was above 10 in all the quarters except Q4 FY 2016 and Q4 FY 2015. The highest value of 10.95% was observed in Q1 FY2015-2016 and the least of 7.509% in Q4 FY 2015. The statistical analysis shows that the post-merger capital adequacy ratio position was better than the pre-merger. The arithmetic mean of post-merger capital adequacy ratio was 10.57% with an average annual growth rate of 4.52%. Post-merger ratio also has a higher uniformity with a low standard deviation of 0.634%. The pre-merger position showed that capital adequacy ratio was low with an arithmetic mean of 10.284%, average annual growth rate of 3.65%, and high standard deviation of 0.890 %.

- Debt-Equity Ratio (DER): The highest value of 2.16 times was observed in Q4 FY2012-2013 and the least of 0.81 times in Q3 FY 2014. The statistical analysis shows that the pre- merger debt equity ratio position was better than the post-merger position. The arithmetic mean of pre-merger debt equity ratio position was 1.27% with an average annual growth rate of 12.41%. Post- merger ratio also has a higher uniformity with a low standard deviation of 0.07%.

- Proprietary Ratio (PR): The proprietary ratio position was above 10 in all the quarters. The highest value of 14.26% was observed in Q1 FY 2014-2015 and the least of 11.29% in Q4 FY 2012-2013. The statistical analysis shows that the post- merger proprietary ratio position was better than the pre-merger position. The arithmetic mean of pre-merger proprietary ratio was 13.17% with a low average annual growth rate of -0.38%. Pre- merger ratio has a higher uniformity with a low standard deviation of 0.27%. The post-merger position showed that proprietary ratio was low with an arithmetic mean of 12.82% and high standard deviation of 0.27 %.

- Current Ratio (CR): The highest value of 1.01% was observed in Q2 FY2015-2016 and the least of 0.97% in Q2 FY 2016. The statistical analysis shows that the pre-merger current ratio position was better than the post-merger position. The arithmetic mean of pre- merger current ratio was 1.00% with an average annual growth rate of 0.05%. Post- merger ratio has a higher uniformity with a low standard deviation of 0.01%. The post-merger position showed that current ratio was low with an arithmetic mean of 0.98%, average annual growth rate of -0.40%, and standard deviation of 0.01 %.

- Absolute Liquidity Ratio (ALR): It was observed that the highest value of 7.099 % was observed in Q4 FY2014 and the least of 4.021% in Q1 FY 2014. The statistical analysis shows that the post- merger absolute liquid ratio position was better than the pre-merger position. The arithmetic mean of post- merger ALR is 5.79% with an average annual growth rate of 0.14%. The post-merger ratio also has a higher uniformity with a low standard deviation of 0.16%. The pre-merger position showed that the arithmetic mean of 5.18%, average annual growth rate of 0.70%.

- Customer Deposit Ratio (CDR): Customer deposit Ratio was observed highest in Q2 FY2015-2016 and Q2 FY 2015 and the least of 0.58% in Q4 FY 2013. The statistical analysis shows that the post- merger Total Advances to Total Asset Ratio position was better than the pre-merger. The arithmetic mean of post-merger Total Advances to Total Asset Ratio was 71.06% with an average annual growth rate of -0.98%. Post- merger ratio also has higher uniformity with low standard deviation of 1.10%. The pre-merger position showed that Total Advances to Total Asset Ratio was low with an arithmetic mean of 66.35%, average annual growth rate of -1.31% and standard deviation of 4.43 %.

CORRELATION COEFFICIENT

Table 2: Correlation Coefficient

Particulars	FY16 & FY15	FY16 & FY14	FY16 & FY13
ROE	0.15	0.73	0.74
ROA	-0.65	0.38	0.83
CIR	-0.50	-0.50	0.61
NIIM	-0.16	0.68	0.96
TITAR	-0.18	0.45	0.76
TATAR	0.57	0.74	0.84
ALAR	0.54	-0.45	-0.33
EPE	0.90	0.92	0.96
BPE	0.44	0.45	0.78
CAR	0.99	-0.51	-0.59
DER	-0.06	0.92	0.49
PR	0.63	-0.66	0.20
CR	-0.20	0.43	-0.43
ALR	0.37	-0.01	-0.40
CDR	0.53	0.88	0.41

Source: Compiled from the quarterly reports of KMB from 2013 to 2016

Interpretation

- ROE is moving in the same direction in FY16 and FY13 with higher rates as compared to the other two years. ROA in FY16 and FY14 had much higher values. In CIR, FY16 and FY13 are moving in the same direction with much higher rate. NIM, as compared to the financial years, is moving in the same direction in FY16 and FY13 with a higher rate.
- In EPE, the rates are moving in the same direction. There is no significance difference during these years. In BPE, there is much higher rate in the FY16 and FY13.
- In CAR, the rates are moving in the same direction. In FY16 and FY14 it is average but opposite. In DER, FY16 and FY15 have an average rate but opposite direction. In PR, the rates are moving in the same direction.
- In CR, the rates are moving in the same direction.

HYPOTHESES TESTING

Table 3: Testing of Hypothesis

Particulars	t-value			Significance(Table value of t)		
	FY16 & FY15	FY16 & FY14	FY16 & FY13	FY16 & FY15	FY16 & FY14	FY16 & FY13
ROE	0.2169	2.209	2.3121	YES	YES	YES
ROA	-1.5915	0.6279	3.7724	YES	YES	NO
CIR	0.9427	-0.9427	1.3736	YES	YES	YES
NIIM	-0.2321	1.7885	17.3137	YES	YES	NO
TITAR	0.263	0.8009	2.545	YES	YES	YES
TATAR	1.1937	2.3121	4.00319	YES	YES	NO
ALAR	1.0779	-0.7979	-0.5231	YES	YES	YES
EPE	6.697	8.469	17.31	NO	NO	NO
BPE	0.7714	0.8009	2.8163	YES	YES	YES
CAR	0.419	-0.9745	-1.2815	YES	YES	YES
DER	0.0851	9.6232	0.9118	YES	NO	YES
PR	1.477	-1.6543	-0.2946	YES	YES	YES
CR	-0.2946	0.7459	-0.7459	YES	YES	YES
ALR	0.6062	-0.01411	-0.6733	YES	YES	YES
CDR	1.0421	5.5141	0.6968	YES	NO	YES

Source: Compiled from the quarterly reports of KMB from 2013 to 2016

Result of Hypotheses

Profitability Ratio

- **ROE:** From the analysis it is found that the ROE values during the FY16 & FY15, FY16 & FY14, and FY16 & FY13 are less than the table value 2.92. Therefore, we can conclude that there is no significant difference in the ROE during pre- and post- merger periods.
- **ROA:** In the FY16 & FY15 and FY16 & FY14, ROA values are less than the table value. Therefore, we can say that there is no significant difference in the ROA and in the FY 16 & FY13 there is a difference in the pre- and post-merger period.
- **CIR:** Here we fail to reject the null hypothesis as the significance value is less than the table value. So, we conclude that there is no significant difference in CIR during the pre- and post-merger periods.
- **NIIM:** Here we fail to reject the null hypothesis as the significance value is less than the table value in the FY16 & FY14 and FY16 & FY15. In the FY16 & FY13, there is a difference in the pre- and post-merger period.
- **TITAR:** From the analysis it is found that, the IAR values during the FY16 & FY15, FY16 & FY14 and FY16 & FY13 are less than the table value 2.92. Therefore, we can conclude that there is no significant difference in the IAR during the pre and post- merger periods.
- **TATAR:** In the FY16 & FY15 and FY16 & FY14, the values are less than the table value. Therefore, we can say that there is no significant difference in the ROA and in the FY16 & FY13 there is a difference in the pre- and post-merger period.
- **ALR:** From the analysis it is found that the ALR values during the FY16 & FY15, FY16 & FY14 and FY16 & FY13 are less than the table value 2.92. Therefore, we can conclude that there is no significant difference in the ALLR during the pre- and post- merger periods.

Efficiency Ratio

- **EPE:** Here we reject the null hypothesis as the significance value is greater than the table value. So, there is a significant difference in the EPS during the pre- and post-merger periods.
- **BPE:** From the analysis it is found that the BPE values during the FY 16 & FY15, FY16 & FY14, and FY 16 & FY13 are less than the table value 2.92. Therefore, we can conclude that there is no significant difference in the BPE during the pre- and post- merger periods.

Capital Adequacy Ratio

- **CAR:** From the analysis it is found that the CAR values during the FY16 & FY15, FY16 & FY14, and FY16 & FY13 are less than the table value 2.92. Therefore, we can conclude that there is no significant difference in the CAR during the pre- and post-merger periods.
- **DER:** In the FY16 & FY15 and FY16 & FY13, we failed to reject the null hypothesis as the significance value is less than the table value. In the FY16 & FY14, we reject the null hypothesis as significance value is greater than the table values. So, there is a difference in the DER during the pre- and post-merger periods.
- **PR:** From the analysis it is found that the PR values during the FY16 & FY15, FY16 & FY14, and FY16 & FY13 are less than the table value 2.92. Therefore we can conclude that there is no significant difference in the PR during the pre- and post-merger periods.

Liquidity Ratio

- **CR:** From the analysis it is found that the CR values during the FY16 & FY15, FY16 & FY14, and FY16 & FY13 are less than the table value 2.92. Therefore, we can conclude that there is no significant difference in the CR during the pre- and post-merger periods.
- **ALR:** From the analysis it is found that the ALR values during the FY16 & FY15, FY16 & FY14, and FY16 & FY13 are less than the table value 2.92. Therefore, we can conclude that there is no significant difference in the ALR during the pre- and post-merger periods.
- **CDR:** In the FY16 & FY15 and FY16 & FY13, we failed to reject the null hypothesis as the significance value is less than the table value. In the FY16 & FY14, we reject the null hypothesis, as significance value is greater than the table value. So, there is a difference in the CDR during the pre- and post-merger periods.

FINDINGS AND SUGGESTIONS

- The return on equity ratio of KMB expresses an average growth rate of 3.27% in pre-merger compared to the post-merger period, inferring that the revenue generating capacity of the bank after merger is appreciable. The arithmetic mean of the pre-merger is 3.00 which is higher than that of post-merger.
- The return on assets ratio of KMB shows an average growth rate of 1.18 indicating that the revenue generating capacity of the bank from assets is satisfactory with respect to post-merger. The arithmetic mean shows that the pre-merger is 0.93 which is higher than that of the post-merger which shows the bank is performing well.

- Further, the cost to income ratio of the KMB indicates an average of 5.59% in post-merger time compared to pre-merger indicating that cost incurred to generate income by the bank is comparatively high and the arithmetic mean of pre-merger is 51.00 which is higher than that of post-merger period.
- Also, the net interest income margin of KMB is fixed at an average of 3.80% during pre-merger period and during post-merger it is fixed at an average of -17.00% indicating that the net interest generated out of the interest earning assets of the bank is comparatively low. The arithmetic mean of pre-merger is 1.50 which is higher than that of post-merger.
- The bank has been showing increasing trend with respect to returns on equity and returns on total assets. This condition needs more concentration and maintenance.
- The net interest income margin of a bank should be maintained at 9%, bank rate. The bank should try to enhance its position to this level to ensure steady growth in business.
- The cost to income ratio, implying the cost incurred to generate income, is low. This position should be strengthened further.
- The average earnings per employee of KMB during pre-merger were more as compared to post-merger. The average earnings per employee of post-merger are -11.68 which is not good. This means that the employees are not contributing much to the net profit.
- The average revenue generated by the employees is highest in pre-merger. This means that the employees are performing better in comparison to post-merger phase.
- The earning and business per employee ratios of the bank have been showing a positive trend. This should be maintained by the bank in future.
- The Bank for International Settlement sets the ideal capital adequacy ratio as minimum as 8%. KMB has a strong capital adequacy ratio of 4.52% in post-merger. The pre-merger phase shows a capital adequacy ratio of 3.65%, which is quite unsatisfactory.
- The ideal debt-equity ratio is set at 0.5:1. The KMB has an average annual growth rate of 4.05% during post-merger phase which is low as compared to that of pre-merger. The pre-merger growth rate is 12.41% which implies that it uses debt as a major source of finance than equity.
- Proprietary ratio implies the capital structure of a company. The ideal proprietary ratio is fixed as 50%. The KMB in post-merger time has an average growth rate of 1.72% and in pre-merger time it has -0.38%, which indicates that the bank has not adequate capital.
- The ideal capital adequacy ratio as prescribed in BASEL III norms is 9%. The bank has attained an average level. It should be in this position and it should further be tried to enhance its capital adequacy ratio to the prescribed level.
- With respect to the debt, though it is a cheaper source of finance, the financial risk with respect to liquidity prevails. The current ratio of the bank is arrived at 0.98% and 1.00% and Absolute liquidity ratio 5.97% and 5.18% in post-merger and pre-merger, indicating low short term solvency.
- The total assets of the bank are backed up by an average of 71.06% in post-merger and 66.35% in pre-merger of customer deposits in this 16 quarters period.
- The bank should try to enhance its short-term solvency position by maintaining the adequate current ratio of 2:1 and absolute liquid ratio of 0.51.
- Further, the loans to deposits ratio and the customers deposits to total assets ratio are satisfactory. The bank should try to maintain this position and further enhance its business.

CONCLUSION

The overall performance of any firm depends upon the revenue generating capacity without interring its long term stability. The strength of a bank depends upon how it is able to maintain a strong capital base with adequate earnings with the other supporting indicators. From the study, it is observed that Kotak Mahindra Bank had a stable financial performance during the last 16 quarters, that is 4 years. Among all these quarters, the last 4 quarters showed slightly lower performance in terms of net income margin, earnings per employee, business per employee, debt equity ratio, proprietary ratio, and current ratio. These can be due to the increment cost which might have been occurring due to the merger with ING Vysya. In the long run, the bank must try to achieve the benefit of the economics of scale attached with the merger agenda. Even though the post-merger performance has slightly diminished, it would definitely make up with the competitors in the years to come.

SCOPE FOR FURTHER RESEARCH

This study is aimed at the performance evaluation of banks post-merger. This study can be extended by considering the foreign banks. An elaborated version of the study can be designed by considering micro level performance indicators using CAMELS model. A comparison between foreign

banks and Indians banks can be considered only during post-merger. Considering demonetisation, the study can also be split into three segments in i.e. pre-merger adoption, post-merger, and post-demonetisation. This time horizon is of great importance because agenda behind demonetisation was to increase the adaptability to technology driven banking. So measuring the effectiveness of bank performance during post-demonetisation period will indicate the real success.

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Table 4: Data Analysis and Results

Year	Quarter	ROE (%)	ROA (%)	CIR (%)	NIIM (%)	TITAR (%)	TATAR (%)	ALAR (%)	EPE	BPE	CAR (%)	DER (Times)	PR (%)	CR (Times)	ALR	CDR (%)
FY 2015-2016	Q4 FY 16	2.98	0.86	44.86	1.82	26.66	61.72	7.32	0.05	6.47	9.63	0.88	12.46	0.98	5.927	72.11
	Q3 FY 16	2.72	0.97	51.57	1.53	24.86	63.33	7.02	0.05	6.29	10.84	0.85	12.8	0.98	5.641	71.89
	Q2 FY 16	1.97	0.59	51.23	0.93	24.1	63.65	6.93	0.04	6.09	10.89	0.97	12.89	0.97	5.664	70.24
	Q1 FY 16	1.96	0.6	52.5	0.97	25.58	62.09	6.5	0.04	5.65	10.95	0.98	13.12	0.97	5.937	70
FY 2014-2015	Q4 FY 15	3.73	1.06	51.98	1.7	27.03	62.41	7.35	0.04	3.69	7.5	0.86	13.34	1	6.191	70.61
	Q3 FY 15	2	0.58	52.51	0.92	24.86	63.33	7.02	0.04	6.43	10.84	0.85	12.8	0.98	5.641	71.89
	Q2 FY15	2.67	0.97	50.37	1.52	28.53	63.87	5.86	0.03	3.4	10.42	0.8	13.83	1.01	4.601	71.36
	Q1 FY 15	3.17	1.03	43.51	1.61	26.79	63.86	6.53	0.03	3.17	10.57	0.89	14.26	1	5.07	68.89
FY 2013-2014	Q4 FY 14	3.32	1.1	53.56	1.82	29.1	60.54	6.3	0.04	3.03	10.73	1.05	14.01	1	7.099	67.45
	Q3 FY 14	2.49	0.89	51.77	1.41	27.97	63.23	6.72	0.03	3.69	10.5	0.81	13.38	1	4.46	71.47
	Q2 FY 14	2.42	0.92	52.23	1.5	27.41	61.58	6.85	0.02	2.89	10.76	1.26	14.06	1	6.782	64.05
	Q1 FY 14	2.53	0.85	53.43	1.43	32.76	59.56	6.6	0.02	2.89	10.41	1.6	13.16	1	4.021	61.82
FY 2012-2013	Q4 FY 13	4.62	1.08	48.46	1.86	34.5	57.91	5.79	0.04	2.88	10.46	2.16	11.29	1	4.561	60.97
	Q3 FY 13	3.04	0.98	49.2	1.55	28.01	63.05	7.63	0.03	3.15	10.45	1.15	14.11	1.01	5.145	64.86
	Q2 FY 13	3.02	0.83	53.42	1.33	30.42	62.34	6.26	0.02	2.7	10.36	1.86	11.79	1.01	4.218	62.37
	Q1 FY 13	3.04	0.82	51.51	1.34	30.73	61.39	6.68	0.02	2.51	10.41	1.95	12.02	1	4.318	60.4
POST-MERGER	AM	2.41	0.76	50.04	1.31	25.3	62.7	6.94	0.04	16.23	10.57525	0.67	12.82	0.98	5.79	71.06
	AAGR	-12.22	-8.32	5.59	-17	-1.22	0.22	-3.83	-11.68	-4.4	4.52	4.05	1.72	-0.4	0.14	-0.98
	SD	0.52	0.19	3.5	0.43	1.09	0.94	0.34	0.01	0.31	0.63	0.07	0.27	0.01	0.16	1.1
PRE-MERGER	AM	3	0.93	51	1.5	29.01	61.92	27.77	0.03	3.37	10.28391	1.27	13.17	1	5.18	66.35
	AAGR	3.27	1.18	0.51	3.8	1.73	-0.08	0.01	-4.15	0.37	3.65	12.41	-0.38	0.05	0.7	-1.31
	SD	0.69	0.15	2.86	0.25	2.7	0.94	0.55	0.01	1.03	0.89	0.5	1	0.01	1.03	4.43

Source: Consolidated from the quarterly reports of KMB from 2013 to 2016