

Corporate Mergers, Acquisitions and Value Creation of Firms in Nigeria

Abstract

This study seeks to examine the effect of corporate mergers, acquisition and value creation of firms in Nigeria and to identify areas of synergy. The study employed secondary data collected from the bank's annual report. The data collected covered a period of fourteen years, which is divided into the pre and post-merger periods of seven years respectively. The study adopted panel least square estimation technique and other estimation for the analysis. The study finds out that shareholders' funds and earnings per share are significant in determining the return on asset. Also shareholders' funds and total asset values are statistically significant in the pre-merger periods in determining return on asset. That profit after tax is statistically significant in explaining financial efficiency in the pre-merger periods; the study concludes that there was increase in the shareholders' funds for the post-merger periods.

Keywords: Mergers, Acquisitions, Value creation, Firms, Nigeria

1. Introduction

Mergers and Acquisitions plays a very important role in corporate finance. it enables firms achieve various objectives and financial strategies that enhances shareholders value, performance, create added value and ultimately ensure the survival of the firm. Sudarsanam (2003) asserts that increase in shareholders' value is the main purpose of carrying out M&A. Many firms seeking mergers and acquisitions wish to become the leading player in the market and a force to contend with in the various strategic business unit. Mergers and acquisition enable corporate organization to achieve superior performance.

In order for Mergers and acquisitions (M&A) to take place, ownership of companies, business organizations or their individual operating units are combined together to form a single whole. M&A can either be positive or negative. It is positive when it allows a company to grow and negative when it brings about the reduction in the size of the enterprise. It can also change the nature of the business or improve the competitive position of an organization.

Merger is also the consolidation of two or more entities into one entity, whereas an acquisition occurs when one entity takes complete or partial ownership of another entity's stock, shareholders' funds or assets. From a commercial and economic point of view, both types of transactions generally result in the consolidation of assets and liabilities under one entity which makes it difficult to distinguish between merger and acquisition. Merger may have the effect of placing one party's business under the indirect ownership of the other party's shareholders, while an acquisition may give each party's shareholders partial ownership and control of the combined enterprise. A scenario where both owners of the enterprise agrees to join their assets and liabilities together in the best interest of their companies, is called "Mergers of equals" while when the merger process becomes hostile (i.e., when the management of the company to be acquired opposes the deal) it may be regarded as an "acquisition". An acquisition or takeover occurs when one company is purchase by another company or other business enterprise. An acquisition may be a complete takeover of the film by the acquiring firm, that is 100% ownership of the shareholders' funds,

assets and liabilities or partial ownership of the shareholders' funds and assets that is less than 100% ownership. In Consolidation two or more companies combine to form a new enterprise altogether and they both lose their old identity and assume a new and independent identity. Acquisitions are divided into "private" and "public" acquisitions, depending on whether the acquiree or merging company (also termed a *target*) is or is not listed on a public stock market. Some public companies rely on acquisitions as an important value creation strategy. An additional dimension or categorization consists of whether an acquisition is friendly or hostile in nature.

M&As occur in all parts of the world because they improve competition by gaining greater market share and reducing business risk (Kemal, 2011). The performance of two firms that have merged or acquired improves due to the increase of shareholder's value (Sharma, 2009). Some of the reasons that encourage M&A include economies of scale, revenue enhancement, tax reduction and others. Berger (1999) on the study on the role of capital in financial institutions asserts that mergers have become popular due to enhanced competition.

According to (Douma & Schreuder, 2013), the success of acquisition has proven to be very complicated; while a range of studies have revealed that 50% of acquisitions were unsuccessful "Serial acquirers" tends to be more successful with M&A than organisation who carry out acquisition occasionally. The way an acquisition is communicated to a company board of directors who is being acquired can determine whether it is perceived as being "friendly" or "hostile". In some cases, M&A deal take place in a "confidential manner, because all the processes of M&A are done confidentially. Friendly transaction, occurs in M&A when the companies cooperate in the negotiations phase while in the case of a hostile deal, management of the target firm is unwilling to be bought or may have no prior knowledge of the proposed offer. Although in the long-run hostile acquisition can and often tends to become "friendly", as the parent company secures endorsement of the transaction from the board of the acquiree company having resolved all matters causing delay. This feat is usually achieved if the parent company makes an improvement in terms of the offer through negotiation.

Acquisition often refers to a purchase of a smaller company by a larger one. occasionally, a smaller company will acquire the management control of a larger company and retain the name of the latter for the post-acquisition combined entity. This is known as a reverse takeover. An acquisition can also be said to be reverse merger; in situation that enables a private company to be publicly listed for a short period of time. A reverse merger occurs when a privately held company buys a publicly listed small company, usually one with no business and limited assets.

The combined evidence suggests that the shareholders of acquired firms realize significant positive "abnormal returns" while shareholders of the acquiring company are most likely to experience a negative wealth effect. Approximately all studies account for positive returns for investors and target firms. This means that M&A creates economic value, apparently by reassigning assets to management teams that operate them more efficiently (Douma & Schreuder, 2013).

Most companies aim at improving their financial performance after merger and acquisition. Oftentimes, studies have shown that mergers and acquisitions lead to better financial performance of companies. Contrary to this Ghosh (2001), show results at odds with the view that mergers and acquisitions improve their performance. This situation is particularly evidenced in Nigeria as some firms still experience major crisis just even after major business combination as seen in the Nigerian banking industry whose major mergers resulting from the 2005 bank re-capitalization did not see some of the resulting firms surviving

for a longer period due to incompatibility and over promising performance on the part of the management team which they were not able to meet up with.

Takeovers affect substantial re-allocations of resources both within and across industries, and shape the corporate landscape. A carefully designed and executed mergers and/or acquisition can create substantial value for the merging firms or resulting firms from acquisition by improving operational efficiency and taking advantage of other synergistic gains from combining business activities. However, bad acquisition decisions can also destroy viable business entities and cost executives their jobs. Therefore, this study is to investigate if corporate mergers and acquisition can really create value in the new firms that has been formed.

2. Literature Reviews

The essences of merger or acquisition is to create value above the sum of the separate firms. Most companies opt for merger when faced with the problem of survival during hard times. The companies combine in order to compete favorably well in the market, reduce on costs and competition and increase the market share of their product. As a result, companies give in to the pressure when they cannot stand alone or meet up with their needs (Murgia, 2000).

A merger or acquisition is the amalgamation of two or more corporations where one corporation is wholly absorbed by another corporation. The company to be acquired loses its identity and becomes part of the new corporation, which retains its identity. During merger the company to be absorbed losses all it rights and privileges, and the current company assume all the rights, privileges, and liabilities of the merged company. Note that there is a differences between mergers and consolidation, in consolidation, the two corporations lose their separate identities and unite to form a completely new corporation. Every country has laws that regulate mergers and acquisitions. These laws are based on the fact that mergers ultimately eliminate competition between the merging firms. It becomes more serious and a thing of concern where the participants are direct rivals, because courts often presume that such arrangements tends to limit output and to increase prices.

Government cautiously dissect proposed mergers and acquisition because it eliminates competition and may give monopoly of power which in turn, will make them increase the prices of goods at will. On the other hand, since the 1980s, the federal government has become less aggressive in seeking the prevention of mergers. Despite the concerns about reduction in competition, government has made it easy to buy or sell entire companies or specific parts of a company. Mergers and acquisitions often result in a number of social benefits. Mergers can bring better management or technical skill to bear on idle assets, produce economies of scale and scope that reduce costs, improve quality, and increase output. In order to avoid takeover company managers behaves in ways that helps to maximize profits at all cost. A merger can enable a business owner to sell the firm to someone who is already familiar with the industry and who would be in a better position to pay the highest price. The prospect of a lucrative sale induces entrepreneurs to form new firms. Finally, many mergers pose few risks to competition.

Mergers and acquisitions are measures, that firms adopt in order to achieve external expansion and reduce competition. According to Sheidu & Yusuf (2015) mergers is defined as the blending of two or more companies. In the broad sense, M&A encompasses the coming together, combination, fusion and synergy of companies, in which one drop its identity, and the other retains. Anyanwu & Agwor (2015) see mergers as a form of “strategic alliance” whereby two firms work together in pursuance of similar

objectives. Similarly, Ahmed & Ahmed (2014) described mergers as an amalgamation that involves the combining of two previously independent entities subsequently into a sole entity.

There are laws that proscribe transactions whose anticompetitive cost are more important than their likely benefits. The significant time for appraisal usually is when the merger is projected for the first time, this enables enforcement agencies and courts to estimate market trends and future effects. Mergers examine past events or periods to understand each merging party's position in its market and to predict the merger's competitive impact.

2.1 Mergers & Acquisitions and Financial Performance

The financial performance assesses the profitability of the organization actions. It examines how an organization should appear to its shareholders to succeed financially (Kaplan & Norton, 1992). Anderibum & Obute (2015) evaluated the outcomes of M&A on the bank profitability in Nigeria. The study focused on the United Bank for Africa (UBA) Plc, spanning a period of 2000 - 2010. Using paired sample t-test the study found a positive and significant relationship on the performance of commercial banks in Nigeria. Similarly, Omoye & Aniefor (2016) employed a longitudinal survey covering the period of 2007 to 2012 to assess the effect of M&A on organizations' profitability. Data for the study was analysed using "McNemar" statistics. The findings from the study revealed that M&A has an influence on the profitability ratios. Also, Sabri, Ezman & Zainal (2015), examined the impact of M&A on the stock price. Their study demonstrated evidence that suggests a positive and significant impact of M&A on stock performance. They further assert that when M&A are announced this may spur efficiency.

However, studies such as Ahmed and Ahmed (2014); Ashfaq, Usman, Hanif & Yousa (2014) argued that M&A have no effect on corporate performance. Ashfaq et al. (2014) investigated the effects of M&A on corporate performance, using descriptive statistics and paired sampled t-test. Their study revealed that performance declined following mergers and acquisitions. They further observed that organizations tend to loss strategic focus after business combination. The study of Ahmed & Ahmed (2014) also conforms to the previous findings. They examined the impact of mergers on financial performance. The sample was drawn from selected manufacturing industries of Pakistan covering 2000-2009. Using paired sample t-test statistics, they found a negative relationship between mergers, acquisitions and firms' performance.

2.2 Effects of Mergers and Acquisitions on Profitability

Bank profitability is the net after-tax income or net earnings of a bank (usually divided by a measure of bank size). Financial ratios are the most commonly used methods in analyzing bank profitability (Mamatzakis, 2007). Financial ratios are used to analyze and interprets banks financial data and accounting information to enables users of accounting information's to have an understanding on bank performance. Pandey (2008) on his book entitled financial management opined that a combination of two or more firms may bring about reduction of cost as a result of operating economies. Which will invariably help to reduce overlapping functions and facilities. It can also unite its management functions such as marketing, research and development and reduce operating costs. All things being equal, growth often leads to higher profits and increase in shareholders' value. A company may expand or diversify its markets internally or externally. When the company cannot grow internally due to lack of physical or managerial resources, it can grow externally by combining its operations with other companies through mergers and acquisitions. Mergers and acquisitions may help to accelerate the pace of a company's growth in a convenient and inexpensive manner.

For a company to grow Internally, it must develop all of its operating, manufacturing, research and marketing strategy that is required. Mergers and acquisitions, however, is capital intensive and may or may not require the consent of the target company. External growth could be expensive if the company pays an excessive price for merger. Benefit should exceed the cost of acquisition for realizing a growth which adds value to shareholders. In practice, it has been found that the management of a number of acquiring companies paid an excessive price for acquisition to satisfy their urge for high growth and large size of their companies (Luypaert, 2008). The definition of success may vary, but any activity that fails to enhance shareholders interest and value cannot be deemed as a success (Straub, 2007). A long term decline in shareholder wealth of a merger and acquisition can term the combination process to be a failure (Pike & Neale, 2006). The success of any merger was measured by the core competences generated to create value or enhance value. It was measured using the parameters such as market attractiveness and competitive positioning as a result of cost leadership and product differentiation.

In the series of studies that had been carried out elsewhere since 1921, researchers had been unable to demonstrate that merger active firms were profitable, or had higher stock prices, following the merger activity. Financial performance of the company can be expressed in terms of income generated from its operations, after offsetting expenses when the profitability of the firm is arrived at, Lucey (2000).

There were companies that had sound acquisition records. Their targets were carefully selected and they rarely got involved in competitive auctions because these companies had in common a strategic approach to acquisition. Successful acquisitions were part of a long term strategic process designed to contribute towards overall corporate development. Firms were attracted by the opportunity to fully utilize tax shields, increase leverage, and exploit other tax advantages.

2.3 The Concept of Value Creation

Though the concept of value creation can be measured in many terms, which can be either monetary, cognitive, social, political, or emotional, etc. This study applied the concept of value creation in monetary terms. Value creation is improvement in the shareholders' wealth brought about by the activities of an organization. It is also seen as the excess of market value over book value per share (Fruhan, 1979). According to the value increasing school, value creation in mergers occurs, broadly, because mergers generate synergies between the acquirer and the target, and synergies, in turn, increases the value of the firm (Hitt et al, 2001).

According to the theory of efficiency, mergers can only occur when they are expected to generate achievable synergies to make the deal beneficial to parties involved in the deal. it is the proportional expectations of gains by both parties that results in a friendly' merger being proposed and accepted. For mergers deal, to take place, the deal must be beneficial to all the parties involved and must leads to a win-win situation for all. If the gain in value to the target was not positive, the target firm 's owners would not sell or submit to the acquisition, and if the gains were negative to the bidders' owners, the bidder would not complete the deal. Hence, for a merger deal to be successful It must produce a positive result for both parties as suggested by the efficiency theory on value creation with positive returns to both the acquirer and the target (Banerjee & Eckard, 1998).

A firm is seen to create value for its shareholders when the firm's return on assets is greater than its cost of capital (Hailemariam, 2001). Fernandez (2002) asserts that value creation is often seen through the increase in the firm's market value of shares.

However, Koller (1994) observes that while many of these performance management systems have successes, many other have not. He argues further that the cause of failure was after performance target that were unclear or not properly aligned with the ultimate goal of creating value. In order to create value, the management team must know how to identify, select, and segment the market in such a way that they are able to compete, define the kind of value to be proposed on the market and create supply for such value.

2.3.1 Financial Performance as a measure of value creation

This measures the companies' financial activities and how they set out to achieve their financial goals. It also measures how well companies do in terms of financial returns using various evaluation methods and financial indicators (Weston, 2001). Paul (2001), carried out a study on evidence on mergers and acquisitions and opined that a second approach to measuring merger effects is by evaluating the data from financial statements. To achieve this, the pre-merger and post-merger performance will be compared so as to know what happened after the merger or acquisition. The study focuses on profit margins, cash flow statements, accounting rate of return among others. The study uses financial performance criterion as a measure of value creation. Specifically, the study uses return on assets (ROA) as a measure of value creation.

2.3.2 Return on Asset as a measure of value creation

Return on Asset shows how profitable a company is relative to its total assets. It measures how much profit a company earns for every naira of its assets. This ratio illustrates how well management is employing the company's total asset to make profit. The higher the return on asset, the more efficient management is utilizing its asset base. A company can arrive at a high ROA by boosting its profit margin or by using its asset to increase sales. Also ROA denominator (total assets), includes liabilities like debt which means that when debts are lowered, the ROA will increase. It is calculated by comparing the net income to average total assets and expressed as a percentage.

2.3.3 Return on Equity as a measure of value creation

Return on Equity indicates the firms' ability to effectively handle the shareholders' funds to generate more profits. A higher return on equity shows that the managements are efficient in managing the shareholders' funds to generate revenues. A study by Khalayleh (2001) in the relationship between accounting performance indicators for Jordanian firms showed a positive relationship between the market power per share and the return on equity ratio. A number of reasons is attributed to the relationship between Mergers and Acquisitions and the Shareholders Value, and this may include; achievement of economies of scale and increasing of market share. According to Brealey (2006), economies of scale is achieved when there is a reduction of average unit cost of production as a result of operational efficiencies and synergies. As the market share increases, the force of the suppliers and buyers reduces. Companies are able to overcome price wars as well as utilizing technological advancements (Pandey, 2008). Managers may decide to increase the shareholder's value thus opting for mergers and acquisitions in order to increase their benefits at the expense of those of the shareholders (Berkovitch, 1993). The agency problem increases competition but competition by itself cannot eliminate it.

3. Materials and Methods

3.1 Data

The study uses secondary data sourced from the audited annual financial reports of accounts for the respective firms over period of (14) years from 2000 to 2013. These periods were chosen in order to cover the pre-merger (2000 – 2006) and post-merger periods (2007 – 2013). The relevant data are sourced from the published financial statements and annual report for the merged firms for the period under review.

The population of the study consist of all banks quoted on the Nigerian stock exchange that have experienced one form of merger and acquisition or the other as a result of bank recapitalization in 2005 which brought down the number of banks in Nigeria from 89 to 25. However, the sample size chosen for this study is seven banks, this represent 28% of Banks in Nigeria which were chosen randomly because all the banks has equal chances of been selected. The banks include: Access Bank, Zenith Bank, Sterling Bank, UBA, GTB, Diamond Bank, FCMB. They were chosen using a simple random sampling method.

3.2 Research design

The research design used was causal research design, which is helpful in explaining the cause-and-effect relationship in terms of performance of firms in the different periods that the merger occurs. (i.e. pre and post-acquisition periods), and to make comparison between these periods in ascertaining whether indeed the new firms formed have increased value creation, and have competitive advantages over their pre-merger state and also in determining the impact of merger on the return on assets. The research analyses the operational performance for the merged firms within the period of study.

3.3 Method of data analysis

The study utilizes descriptive statistics, correlation matrix and panel and pooled least square estimation technique. The signs and significance of the regression coefficients were relied upon in examining the nature and influence of the independent and dependent variables as to determine both magnitude and direction of impact of one variable on another. For the statistical significance of the independent variables, t – test and their probability values were used.

This study measures the financial performance in both pre and post-merger period of banks using the model in equation (1) and the efficiency of banks in the pre and post-merger period using equation (2)

$$ROA = f(TNR, SHF, TASS, LV, DV) \quad (1)$$

$$FE = f(DR, TNR, SHF, TASS, PAT, LV, DV) \quad (2)$$

where ROA is the return on assets, TNR is the annual turnover, SHF is the shareholders' fund, $TASS$ is the total assets, LV is the loan volume, FE is the firm efficiency proxy by the ratio of operating expenses to operating income, DR is the debt ratio, PAT is the profit after tax, and DV is the deposit volume.

The two models in equation (1) and (2) for the bank performance and the bank efficiency pre and post-merger periods respectively are specified econometrically as follows

$$ROA_{tpr} = \beta_0 + \beta_1 TNR_{tpr} + \beta_2 SHF_{tpr} + \beta_3 TASS_{tpr} + \beta_4 LV_{tpr} + \beta_5 DV_{tpr} + \varepsilon_{tpr} \quad (3)$$

$$ROA_{tpo} = \beta_0 + \beta_1 TNR_{tpo} + \beta_2 SHF_{tpo} + \beta_3 TASS_{tpo} + \beta_4 LV_{tpo} + \beta_5 DV_{tpo} + \varepsilon_{tpo} \quad (4)$$

$$FE_{tpr} = \beta_0 + \beta_1 DR_{tpr} + \beta_2 TNR_{tpr} + \beta_3 SHF_{tpr} + \beta_4 TASS_{tpr} + \beta_5 PAT_{tpr} + \beta_6 LV_{tpr} + \beta_7 DV_{tpr} + \varepsilon_{tpr} \quad (5)$$

$$FE_{tpo} = \beta_0 + \beta_1 DR_{tpo} + \beta_2 TNR_{tpo} + \beta_3 SHF_{tpo} + \beta_4 TASS_{tpo} + \beta_5 PAT_{tpo} + \beta_6 LV_{tpo} + \beta_7 DV_{tpo} + \varepsilon_{tpo} \quad (6)$$

where pr is the pre-merger periods, po is the post-merger periods, t is the current time, and ε is the error term

4. Results

4.1 Descriptive statistics

Table 1. Presentation of descriptive statistics for the pre-mergers and acquisitions period of the bank on the value creations

	ROA	FE	PAT	SHF	TASS	TNR	DV
Mean	1.067179	-1.304285	2.15E+09	1.24E+10	8.65E+10	1.05E+10	5.71E+10
Median	0.018751	-1.000000	5.97E+08	2.98E+09	2.42E+10	5.51E+09	1.66E+10
Maximum	31.75026	1.000000	1.30E+10	1.00E+11	6.11E+11	5.82E+10	3.93E+11
Minimum	-0.248031	-6.568110	-4.82E+09	19148000	34560000	19148000	205110.0
Std. Dev.	5.460039	1.594370	3.67E+09	2.06E+10	1.43E+11	1.40E+10	9.31E+10
Skewness	5.455263	-1.535787	1.354084	2.684391	2.345080	1.938739	2.212310
Kurtosis	31.13931	5.337243	4.675663	11.07422	7.921365	6.202214	7.249624
Jarque-Bera Probability	1290.386	21.10447	14.36787	133.1905	65.47470	35.82611	53.31848
	0.000000	0.000026	0.000759	0.000000	0.000000	0.000000	0.000000
Sum	36.28409	-44.34567	7.32E+10	4.21E+11	2.94E+12	3.56E+11	1.94E+12
Sum Sq. Dev.	983.7970	83.88654	4.43E+20	1.39E+22	6.74E+23	6.50E+21	2.86E+23
Observations	34	34	34	34	34	34	34

Table 1. Continuation

	DR	AG	LV	EPS
Mean	6.879553	10.16385	2.67E+10	0.301706
Median	5.625541	10.38325	9.52E+09	0.178000
Maximum	60.14326	11.78588	2.00E+11	1.640000
Minimum	0.000000	7.538574	0.000000	-0.020000
Std. Dev.	9.920462	1.159232	4.42E+10	0.346646
Skewness	4.699923	-0.790619	2.384863	2.365227
Kurtosis	25.98757	2.512317	8.610646	8.538970
Jarque-Bera Probability	873.7793	3.879039	76.82532	75.16463
	0.000000	0.143773	0.000000	0.000000
Sum	233.9048	345.5708	9.09E+11	10.25800
Sum Sq. Dev.	3247.714	44.34600	6.46E+22	3.965389
Observations	34	34	34	34

The results of the descriptive statistics in Table 1 show that the average value for each firm's return on asset is 106.7179% while the firm's efficiency average is -130.4285%. This implied that on the average, before the M & A, the firms yielded more than a 100% result for both the financial performance and efficiency of the firms. Before the merger period, the efficiency of the firms is signed by negative sign as indicated by the negative mean value for efficiency. The mean value for PAT, TASS, DV, DR, AG, LV are considerably high compared to ROA, FE, EPS and TNR. For some of the variables, the mean values are not very far apart from the mean value. This indicates minimum disparity from the mean point. The relatively low values of the standard deviation show that there are minimum outliers in the data which presupposes that we can rely on the regression results from this data as it will not lead to spurious results and incorrect inferences. The standard deviation of the ROA is higher than that of the FE which implied that ROA will exhibit some disparity from the mean point than FE that is close to the mean point. FE and AG are negatively skewed while the other variables are positively skewed with ROA and DR having platikurtic shape by virtue of their high Kurtosis value. The other values are of the mesokurtic shape which followed the normal distribution shape of the distribution of data. The probability values of the Jarque-Bera statistics are significant at 5% level of statistical significance except for AG which is not statistically significant at 5% level of significance. Hence we can conclude that the data are normally distributed.

Table 2. Presentation of descriptive statistics for the post-mergers and acquisitions period of the bank on the value creations

	ROA	FE	PAT	SHF	TASS	TNR	DV
Mean	0.020167	-1.294915	2.59E+10	1.79E+11	1.03E+12	1.09E+11	8.20E+11
Median	0.018512	-0.920981	1.75E+10	1.80E+11	9.22E+11	9.16E+10	5.71E+11
Maximum	0.052622	1.668622	9.58E+10	4.88E+11	2.88E+12	3.11E+11	4.10E+12
Minimum	-0.032389	-4.787612	-6.66E+09	1.65E+08	1.10E+09	12889000	8.98E+08
Std. Dev.	0.015350	1.345292	2.86E+10	1.43E+11	7.61E+11	8.32E+10	8.18E+11
Skewness	-0.920880	-0.735200	1.158665	0.453504	0.532614	0.726794	2.196117
Kurtosis	6.058959	3.916414	3.342854	2.281343	2.533700	2.774444	9.341676
Jarque-Bera	16.46786	3.877442	7.088104	1.729710	1.746524	2.794902	76.86525
Probability	0.000265	0.143888	0.028896	0.421113	0.417587	0.247226	0.000000
Sum	0.625178	-40.14236	8.03E+11	5.55E+12	3.18E+13	3.38E+12	2.54E+13
Sum Sq. Dev.	0.007069	54.29434	2.46E+22	6.11E+23	1.74E+25	2.08E+23	2.01E+25
Observations	31	31	31	31	31	31	31

Table 2. Continuation

	DR	AG	LV	EPS
Mean	4.733281	11.67412	8.25E+11	0.259806
Median	4.134022	11.96464	3.67E+11	0.189000
Maximum	11.27669	12.45920	7.48E+12	0.870000
Minimum	1.143992	9.042319	3.20E+08	-0.120000
Std. Dev.	2.937824	0.909189	1.79E+12	0.195922
Skewness	0.823837	-2.137658	3.390280	1.386443

Kurtosis	2.828376	6.507937	12.88117	5.205336
Jarque-Bera Probability	3.544704 0.169933	39.50426 0.000000	185.5008 0.000000	16.21352 0.000301
Sum Sum Sq. Dev.	146.7317 258.9244	361.8978 24.79871	2.56E+13 9.65E+25	8.054000 1.151559
Observations	31	31	31	31

The results of the descriptive statistics in Table 2 show that the average value for each firm's return on asset is 2.0167% while the firm's efficiency average is -129.4915%. This implied that on the average, after the merger periods, the banks become more efficient but this efficiency did not result to increase in their financial performance as indicated by a small mean value for ROA. After the merger period, the efficiency of the firms is negatively sign as indicated by the negative mean value for efficiency. The mean value for SHF, TNR, PAT, and LV are considerably high compared to AG, EPS, DR, ROA and FE. For some of the variables, the median values are not very far apart from the mean value except for TNR and TASS. This indicates minimum disparity from the mean point. The low values of the standard deviation negate the presence of outliers in the distribution of the data which presupposes that the data will not produce spurious results. Using the JarqueBera statistics, some of the series failed the normality test. Such variables are FE, TASS, SHE, and TNR. The other seven variables Jarque-Bera probability values are statistically significant at 5% level of significance. ROA, FE, and AG are negatively skewed toward the origin while the other variables have positive skewness. The kurtosis values do not have much disparity as they all fall within the same range 2.28 to 6.50 except for LV whose value is 12.88.

4.2 Regression results for the pre-merger and acquisition periods for firm financial performance and firm efficiency

Table 3. Random and fixed effects regression for pre-merger and acquisition on firm financial performance

Variable	RANDOM EFFECT			FIXED EFFECT		
	Coefficient	t-Statistic	Prob.	Coefficient	t-Statistic	Prob.
TNR	6.75E-12	0.209649	0.8352	-9.89E-12	-0.284459	0.7782
SHF	2.71E-10	3.613149	0.0010	3.50E-10	4.117835	0.0003
AG	-2.227781	-4.566651	0.0001	-3.385428	-4.171512	0.0003
DV	-3.90E-11	-2.330499	0.0258	-7.99E-11	-3.661142	0.0010
C	22.50590	4.671620	0.0000	35.99859	4.488778	0.0001
R-squared	0.322036			R-squared	0.795097	
Adjusted R-squared	0.242276			Adjusted R-squared	0.721917	
F-statistic	4.037546			F-statistic	10.86501	
Prob. (F-statistic)	0.008744			Prob. (F-statistic)	0.000000	
Durbin-Watson stat	1.065101			Durbin-Watson stat	2.008336	

From the results in table 3, the R-squared of the regression results of the fixed effect estimation performed better than that of the random effect. using the fixed effect result for decision making in this section. The

fixed effect test equation has R-squared value of 79.5097% implying the extent to which the independent variables could account for the systematic variation in the dependent variable.

The t-statistic revealed that shareholder fund (SHF), asset growth(AG), and deposit volume(DV) are statistically significant at 1% in explaining the variation in Return on asset (ROA) during the pre-merger periods. Annual Turnover(TNR) was not statistically significant in determining variation in ROA. The F statistic shows the model is statistically significant at 5% level of statistical significance in explaining the relationship between the dependent variable and the independent variables. The DW statistic of 2.008336 shows that there is no presence of serial correlation in the model, hence we can rely on the results of the fixed effect test equation.

Table 4. Random and fixed effect results for financial efficiency of pre-merger and acquisition periods with addition of more variables

Variable	RANDOM EFFECT			FIXED EFFECT		
	Coefficient	t-Statistic	Prob.	Coefficient	t-Statistic	Prob.
DR	0.008010	1.456555	0.1568	-0.012094	-1.431869	0.1727
TNR	4.55E-11	0.471127	0.6413	-1.63E-10	-1.536841	0.1452
TASS	2.71E-11	3.569904	0.0014	-1.08E-12	-0.052570	0.9588
PAT	-1.90E-10	-2.619842	0.0143	1.27E-10	0.860852	0.4029
LV	1.11E-10	3.347042	0.0024	3.04E-11	0.492560	0.6295
DV	-9.87E-11	-3.573536	0.0014	-3.76E-12	-0.065747	0.9484
C	-1.105782	-3.487182	0.0017	-0.293536	-0.496011	0.6271
R-squared	0.418835			R-squared		0.834159
Adjusted R-squared	0.289687			Adjusted R-squared		0.635151
F-statistic	3.243070			F-statistic		4.191573
Prob. (F-statistic)	0.015669			Prob. (F-statistic)		0.003679
Durbin-Watson stat	1.258933			Durbin-Watson stat		1.616216

In Table 4, the t-values of the random effect results revealed that TASS, PAT, LV and DV are statistically significant at 1% level of significance. DR and TNR are not significant in determining variation in FE in the pre-merger periods. While DR, TNR, TASS and LV are positively related with FE, PAT and DV have negative relationship with FE. This implied that the more efficient banks in the pre-merger periods had lower profits for those periods. This is partly accounted for by the cost incurred by those bank in becoming efficient not been set off by their returns. It cost more to become efficient in operation and other business area of the bank. The R-squared value of 83.42% shows that the independent variables accounted for the systematic variation in the dependent variables to that amount. The F value of 3.24 with a probability value of 0.016 which is significant at 1% level of significance shows that the model is significant on the overall in explaining the relationship between the dependent variable with the independent variables.

4.3 Presentation and analysis of regression results for the post-merger periods of the bank on the value creation of merger and acquisition

Table 5. Random and Fixed Effects Regression for Post - Merger and Acquisition on Firm Financial Performance

Variable	RANDOM EFFECT			FIXED EFFECT		
	Coefficient	t-Statistic	Prob.	Coefficient	t-Statistic	Prob.

TNR	-1.17E-13	-1.480102	0.1465	-5.94E-14	-0.693448	0.4926
SHF	1.20E-13	2.483935	0.0172	8.80E-14	1.490125	0.1451
TASS	-3.38E-16	-0.231134	0.8184	-1.02E-16	-0.066820	0.9471
C	0.011679	2.533946	0.0152	0.010314	1.868258	0.0701

R-squared	0.167505	R-squared	0.479950
Adjusted R-squared	0.106591	Adjusted R-squared	0.346223
F-statistic	2.749853	F-statistic	3.589025
Prob. (F-statistic)	0.054901	Prob. (F-statistic)	0.002978
Durbin-Watson stat	1.680943	Durbin-Watson stat	2.023520

In Table 5, using the cross-section random effect test equation results for analysis, the R-squared value of 16.7505% show that the systematic variation in ROA is determined by the independent variables by that amount. The t-values show that SHF with t-value of 2.483935 and a probability value of 0.0172 is statistically significant at 5% level of significance in determining variation in ROA for the post-merger periods. The other two variables are not significant at 5% level of significance. The Durbin-Watson value of 1.63 indicates the absence of serial correlation as against the initial report of the correlation matrix on the relationships amongst the independent variables.

Table 6. Random and Fixed Effects Results from Pooled Least Square for Post -Merger and Acquisition on Firm Efficiency

Variable	POOLED RANDOM EFFECT			POOLED FIXED EFFECT		
	Coefficient	t-Statistic	Prob.	Coefficient	t-Statistic	Prob.
DR	-0.053812	-1.690145	0.0923	-0.053812	-1.690145	0.0923
TNR	1.27E-11	3.229312	0.0014	1.27E-11	3.229312	0.0014
SHF	-3.90E-12	-1.465037	0.1442	-3.90E-12	-1.465037	0.1443
TASS	-8.39E-14	-0.147445	0.8829	-8.39E-14	-0.147445	0.8829
PAT	-1.63E-11	-2.709456	0.0072	-1.63E-11	-2.709456	0.0072
C	-1.186388	-5.083874	0.0000	-1.186388	-5.083874	0.0000

R-squared	0.113756	R-squared	0.113756
Adjusted R-squared	0.095215	Adjusted R-squared	0.071916
F-statistic	6.135484	F-statistic	2.718843
Prob. (F-statistic)	0.000023	Prob. (F-statistic)	0.002550
Durbin-Watson stat	2.502700	Durbin-Watson stat	2.502700

EFFECT SPECIFICATION			
Random Effects (Cross)		Fixed Effects (Cross)	
FE—C	0.000000	FE—C	1.98E-15
DR—C	0.000000	DR—C	1.98E-15
TNR--C	0.000000	TNR—C	1.98E-15
SHF--C	0.000000	SHF—C	1.98E-15
TASS--C	0.000000	TASS—C	1.98E-15
PAT--C	0.000000	PAT—C	1.98E-15
C—C	0.000000	C—C	1.98E-15

From the results in table 6, the R-squared value of 11.3756% of the regression results shows that the independent variables could account for the systematic variation in the dependent variable to that extent of the R – squared value. The t-statistic revealed that TNR and PAT are statistically significant at 5% level of statistical significance implying that TNR and PAT significantly affect the efficiency of the firm in the post mergers and acquisition periods. DR is only significant at 10% level of statistical significance. SHF is not statistically significant in determining the variation in FE in the post mergers and acquisition periods. The F – value of 6.135484 and the probability F-value of 0.000023 revealed that the model is statistically significant in explaining the relationship between the dependent and the independent variables.

5. Conclusion

Based on the findings of the study, we conclude that there was major increase in the shareholder's funds for the post-merger periods which is attributable to the combination of resources by the results of mergers and acquisition but this increase does not automatically translate to more efficiency for the banks. This implied that other than seeking for increase in the capital base for the banks, the merger entities should ensure proper integration of operational systems, products and services, and other vital business strategies that will enable them become more efficient after the merger periods.

The study recommends as follows:

- i that banks should ensure that other than due diligence for the merger process, proper integration of operation system that will enhance operational efficiency and increase financial performance should be pursued.
- ii that while merger and acquisition is a very good business combination alternative in seeking increase in value creation for firm stakeholders, banks should only seek combination with other banks that their operational system and business coverage will ensure greater value creation for the banks.
- iii That those banks that do not have enough customers to secure more customer deposits and advances more loans, should consider merger as an alternative to increase their customer base.

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