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PRIMARY RESEARCH

Effects of pre and post-merger and acquisition on the financial performance of an organization

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Return On Equity (ROE)
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Abstract
Mergers and acquisitions are a global strategy that is followed by the different companies to fulfill the needs of the business environment. This strategy important in Pakistan in the financial and non-financial sectors. The main aim of this research is to evaluate the effect of Mergers and Acquisitions (M&A) on the financial performance of the non-financial and financial sectors in Pakistan. In this research paper, we use 10 financial ratios such as Return On Equity (ROE), Return On Assets (ROA), Net Profit Margin (NPM), Total asset turn over, Equity Multiplier (EM), Dividend Per Share (DPS), Earning Per Share (EPS), Debt Ratio, Debt to Equity Ratio (D/E Ratio) and Capital Ratio to measure the financial performance. We use a *t*-test for before and after -merger comparisons. We get financial data of 18 companies listed in the Pakistan Stock Exchange (PSX). Finding shows that due to M&A, there is an insignificant difference in the financial performance of the selected firms.

INTRODUCTION

Nowadays, the corporate environment is changing due to different techniques adopted by firms to get a competitive advantage. M&A are one of well-known methods used by the organization to compete in the market. There is little difference between M&A; therefore, they practice differently. Different researchers define these terms in different ways, such as, If two companies agree to run the business as a single identity or create a new identity for their common benefits in this case merger occurs while an acquisitions case is different from the merger when one company takeover equipment, assets, other units other business of the other company (Meikle & Young, 2012). The firms have to understand the benefits of going to M&A to recognize the aim of the business (Gul, Ali, & Saeed, 2021). There are different motives behind M&A like gaining the market share, competitive gains, and increasing revenues. Sometimes companies prefer an M&A strategy in recession for their survival purposes. The M&A is not only for the competitive purpose but also to sustain an organization's grip in industries as well. The history of the M&A seems in 5th stage. In the first stage of the mergers happened from 1897 to 1904 in this stage, the firms wanted to like a control the manufacturing lines such as electricity, railways, etc. in this era, the mergers took place in horizontal mergers. Horizontal mergers occurred between the heavy business industries.

But further, most of the situation mergers are unsuccessful because they might not get the required performance. The next phase of the mergers occurred from 1916 to 1929. It was focused on mergers the firm for oligopoly, not a monopoly, because most companies are developed, such as electricity and railway, etc. There were two types of the merger taken place one was horizontal and other was conglomerate in nature in the second stage of the merger, most of the companies were major producers of the metals and petroleum products, and transport in this stage, banks played the essential part in helping M&A the 2nd stage of the mergers caused the failure of the stock markets in 1929 and the countless depression. Due to the Tax benefits which were decided invigorated the mergers in 1940. On the other hand 1965-69, most mergers took place conglomer-

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ate in nature; most of the mergers were funded from equity, and banks played no more significant role in 3rd stage, there were no more conglomerate mergers; the conglomerate merger end in 1968, and this happened due to of the poor progress in the conglomerates. And the 4th stage of the M&A started in 1981 and was completed in 1989 in this era, most M&A took places, such as the oil and gas industry, pharmaceutical industry, banking, and airlines industries. The 5th stage of the mergers started from (1992-2000) in this wave stock market was in a boom this merger wave is in the banking,and telecom sectors the, most of the firms were financed by the capital rather than debt-financed. There are many studies that identify the advantages and disadvantages of the M&A concerned with firm's performance in different sectors. In this research paper, first, we compare the combined effect of mergers and acquisitions on the financial performance of the companies listed in both the financial and non-financial sectors. Then we link the effect of M&A on financial performance separately in the financial and non-financial sectors.

Research Objectives

The objective of this research was to investigate the effects of pre and post-merger acquisition on financial performance. The research takes 18 companies into consideration that recently merged to find the said effects on the financial performance of companies in Pakistan.

Significance of the Study

This research paper helps different stakeholders and decision making process. It helps investors during the investment decision in the form of where to invest. Secondly, it helps different companies during portfolio decisions.

Limitation of the Study

- The research was limited to annual reports, and annual reports have their own flaws.
- The study was limited to large-sized non-financial companies and financial companies, while Small and medium enterprises were ignored.
- The research was limited to only 18 major companies that merged recently i-e from 2004 to 2016.

LITERATURE REVIEW

Merger and Acquisition

Abbas, Hunjra, Azam, Ijaz, and Zahid (2014), M&A are essential strategic tools used to realize the organization's growth, including the profit, market control, and long-term survival. According to previous M&A take place when two companies' assets and liabilities are combined and become one legal entity. Moreover, another definition of the M&A is given by Sudarsanam and Mahate (2003) and Jam, Singh, Ng, Aziz, et al. (2018), which emphasizes that M&A is an important strategic choice to achieve the business objectives. Before listing the various objectives behind M&A, first of all, it's described what it shows exactly. Although both terms, M&A are related to corporate organizations that transfer ownership of the property from the owner to other recipients. Furthermore, M&A as per prior research, is the process of buying and selling, acquiring and disposing of both private and public companies. In other words (Farid et al., 2021; Vazirani & Mohapatra, 2012), says that acquisitions happen when one association purchase and overcomes the actions of another institute. Previous research defines merger and acquisition as a process in which an acquirer obtains control of one or more businesses. According to Hirschleifer (1995), a merger helps to keep separate identities but combines into one remaining entity. While prior research says that the combination of two or more firms in which assets and liabilities are sold to the purchaser while the acquisition case is changed in this case, the organization purchase the whole company asset and liabilities or plant division. Existing literature say that when the target of a firm manager primarily rejects an acquisitions proposal, that takeover changes into hostile.

Types of M&A

There are two types of M&A: Congeneric M&A and Conglomerate M&A. Congeneric M&A can be further divided into two types: Horizontal M&A and Vertical M&A. When two companies combine together from the same industry which is most possibly competitors (Chen & Findlay, 2003; J. Khan, Saeed, Ali, & Nisar, 2021). The main reasons for the horizontal M&A is to achieve cost saving and increase market power. Vertical merger is a merger that produces a totally different product from each other such type of merger is called a vertical merger. When a company merges with their own supplier with same business line is called a vertical merger. The main purpose of the M&A is to reduce the operating cost (Chen & Findlay, 2003; S. Khan, Shahbaz, & Jam, 2019). A Conglomerate merger is defined as the two companies which have total the dissimilar business line with each other is called the conglomerate merger; in other words, those firms which perform different business activities from each other are called conglomerate mergers (Ullah et al., 2021; Sanni, Ngah, Karim, Abdullah, & Waheed, 2013). The main reasons for M&A are to achieve economies of scale.

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Motives of M&A

Previous research show the synergistic acquisition, multiple targets are achieved, which include the dominance in the market and changes faced by the company can easily overcome the challenges; the experimental proof shows that the value of the merging firms is increasing. It is further investigated suggesting that company variation allows the managers to reduce the risk and further aids the organization in achieving stability in their operational performance. While other researchers, such as prior research is the evidenced that some mergers are performed for the sake of long-term growth and help to provide security to acquiring firm managers. Agarwal and Bhattacharjea (2006), while studying the effects of M&A, reveals that corporate merger have direct impact on ups and down of Indian business industry except for managerial motives. Eckbo (1985) found that on the announcing of the acquisitions, the competition may enjoy an abnormal return. Morck, Shleifer, and Vishny (1990) reveals that some M&A are backed by managerial motives and most of them prefer increasing the firm size rather than the firm value M&A is driven by managerial objectives. Arnold and Parker (2009), while studying the acquisitions in the UK, identify that various objects behind the M&A in the UK are mostly synergy and want to understand the quick changes in the market.

Financial Performance

Financial performance refers to the performing activity. In a broad way, financial performance depends on the extent to which financial objectives are being completed (Nadeem, Saeed, & Gul, 2020). It is used to measure the overall financial health of the firm during a given period, and it can also be used to compare similar industries or to compare the overall industries or fields. On the other hand, financial performance as concluded by (Venanzi, 2011), has long been measured using accounting ratios. It has been declared as incredible because firms are concentrating on shareholder value as the basic long-term objective of the organization. According to the Altman and Eberhart (1994); Weaver and Weston (2001), it is important for the enterprise to do their financial analysis, which is an estimate and possibilities for strengthening of the business and its returns by using logical financial signs. The ratio shows the relationship between two items. Relationship helps to identify the reinforce the organization's and firm financial performance, i-e, profitability, liquidity, and solvency (Padachi, 2006), A well-intended and executed financial management is expected to contribute positively to the making of firms Burki, Khan, and Saeed (2020). Companies' performance can be calculated by way of performing logical reviews. The ratio is the simple mathematical statement of the affiliated among two items listed in financial statements. Adams and Buckle (2003), profitability means some organization's ability to deal with their future unexpected losses due to the occurrence of their economic coverage. While this ratio shows the impacts of the financial claims in the form of capital and surplus in their reserves. Mwangi and Murigu (2015) identify three measures for the profitability (ROA, GPM, EBT); liquidity refers to the obligation due in a financial year which can be paid by cash or foam of the current asset (T. I. Khan, Kaewsaeng-on, & Saeed, 2019; Laitinen, 2000), solvency shows the company's ability to meet the long-term payable obligations which helps the measurement of long-term financial performance.

Effects of Mergers and Acquisitions on Financial Performance

The studies on the link ofM&As to financial performance gave some different results. Some studies indicate that listed firms experience improved/better financial performance after mergers/acquisitions, while other studies found no change in the financial performance. Other studies also indicate that listed firms in M&A deals experienced decreased financial performance during the early years after M&A and later on improved financial performance. According to existing literature business combinations are always related to external business expansions. The reasons for business expansions include: acquiring new productive facilities and productions related knowledge as the main gains competent management, achievement of the economic scale, and tax advantages are the main reasons for the extension. The core competence and enriched values i-e market attraction and competitive edge obtained through cost differentiation strategy, reflects the achievement of the merger. This results in long-term profit sustainability and the formation of shareholder's wealth (Ali, Ahmad, & Saeed, 2018). There are also studies, such as the study of (Robert, D., & Philip, 2009), which indicate that M&As in the financial sector have an encouraging consequence on firm performance. Still, it has bad effects on prices, consumers, credit availability, too big to fail issues, and market power effects. The overall finding in the study of fowler and prior research reveals their finding while studying the manufacturing sector and conclude that in favorable behaviors, M&A has no impact on firm's performance; this statement is further strengthened by the result which is a comparison of the 4 years before and after M&A.

The researchers used different ratios to measure the per-

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formance of the organization's pre and post-M&A such as previous research use different ratios to identify the performance of the manufacturing company's pre mergers and post-merger. They compare these companies to their industry peers. They conclude that post-merger firms outperformed. Another study conducted by existing literature (Zia, Saeed, & Khan, 2018) during the 1999-2010 period took a sample of merged banks in Pakistan from the banking industry to evaluate the performance of before-and-after M&A banks from 6 ratios (Total Profit, Operating Profit, NPM, ROE, ROCE and D/E ratio. He determined that all the proportion has been reduced post-M&A previous research further investigated Pakistan while studying the ratios of the Royal Bank of Scotland for the 4 years of financial data. The results show that Royal Bank of Scotland's financial performance has been quite satisfactory in the areas of profits, liquid assets, asset management, profits, and cash flow before the merger. This means that the side issue has failed to improve s performance.

Mantravadi and Reddy (2008) use the different ratios to examine the effects of those companies which are merged between 1991-200 to identify the operating performance of the different companies, such as public limited and private limited firms. The results believe that there was a little helpful effect on the firm's profitability in the banking and finance industry and a bad in the pharmaceutical, textile, and electrical equipment industries. Vanitha and Selvam (2007) studied mergers and acquisitions in the manufacturing industry and analyzed the financial performance of the merged enterprises by using the different ratios to analyze the share price reactions to the declaration of the M&A and the influence of the financial variables on shares price of the merged company." It shows that the company positively responded to the sub-announcement and, with this, some financial variables only got the impact of the shares price of the merged companies.

Kumar and Bansal (2008) argued that in an Indian context, some corporate sector claims that the synergy is created after mergers and acquisitions. They investigated that synergy is achieved by the corporate sector after merger and acquisition. The study was based on secondary data and on ratio analysis, whose results indicate that in many cases, M&A creates synergy in the organization for the long term, which may be for higher cash flow and cost-cutting. While the other researchers used the qualitative method to measure the performance of the organization pre and post the M&A. (Oghojafor & Adebisi, 2012), while studying the banking sector in Nigeria for the purpose of estimating M&A as the intervention strategy, he observed that M&A is a corporate strategy will either be successful or not meet the Nigerian industry objectives the result further reveals that banks having good corporate Governance do not need any merger he further argued that M&A should not be implemented immediately, its application is to carried out carefully. According to Fatima (2017) observed and collects detailed information about pre-and post-merger and their impacts by taking semi-structured interviews. Datta and Grant (1990), using the questionnaire in their studies, conclude that accounting and market measures are strongly linked with the external variables in the case of a small and multi-divisional acquiring firm; the actual acquisition performance is difficult to measure furthermore they often show abnormal returns.

M&A in Developing and Developed Countries

M&A can be an effective way for foreign direct investment in developing and developed countries in the past, it was initiated by different corporations in developed countries. The above statement is supported prior research, explained through the market hypothesis, and states that foreign acquires target emerging markets for gaining access to the emerging market. On the contrary emerging market acquirer often takes over poorly managed firm for entry. Zhu, Jog, and Otchere (2011) conclude that due to differences in emerging and developed markets, i-e political culture and legal, it is difficult for a firm to succeed, so the alternatively, they opt for M&A; this statement is further strengthened by the study of previous research who conclude that these difference increase the cost of the merger. The existing literature focused on shareholder value creation generated from acquisitions, whether the target company is from emerging or developed countries; the method for measuring the effects of the acquisitions before and after the announcement can be obtained by the focusing on the shareholder because they are the main player who will be affected most.

Gugler, Mueller, Yurtoglu, and Zulehner (2003) conclude that M&A yields positive profitability, but on the contrary, it reduces the sale of the emerging firm. Lepetit, Patry, and Rous (2004) Examine the M&A in the banking sector in the UK from 1991-2001; the results reveal that the announcement of the M&A reflects the return of the merged banks.

METHODOLOGY

Sample Size

The aim of this specific study is to identify the effects of the pre and post-merger acquisition of financial and non-financial companies listed in the PSX. In order to fulfill the main objective of the research, 18 companies are selected,

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which cover a time period of 2006 to 2014.

Variables of the Study

$$(ROE) = \frac{NET\ PROFIT\ AFTER\ TAX}{TOTAL\ EQUITY}$$

$$(ROA) = \frac{NET\ PROFIT\ AFTER\ TAX}{TOTAL\ ASSETS}$$

$$(NPM) = \frac{NET\ INCOME}{SALES}$$

$$Total\ asset\ turn\ over = \frac{SALES}{TOTAL\ ASSETS}$$

$$Equity\ multiplier = \frac{TOTAL\ ASSETS}{TOTAL\ EQUITY}$$

$$(DPS) = \frac{NET\ INCOME}{NO\ OF\ OUTSTANDING\ SHARES}$$

$$Earnings\ per\ Share\ (EPS) = \frac{NET\ PROFIT\ AFTER\ TAX}{NO\ OF\ ORDINARY\ SHARES}$$

$$Total\ Liabilities\ to\ total\ assets = \frac{TOTAL\ LIABILITY}{TOTAL\ ASSETS}$$

$$Debt\ to\ Equity\ Ratio = \frac{TOTAL\ DEBT}{TOTLA\ EQUITY}$$

$$Capital\ Ratio = \frac{TOTAL\ EQUITY}{TOTAL\ ASSETS}$$

FIGURE 1. Variables of the study

Data Collections

This research is quantitative in nature and based on secondary data, which we collected from annual reports of the required companies taken from the PSX website from 2006 to 2014. All the ratios are calculated taking the two years before M&A and two years after the M&A of the financial and non-financial sectors. Previous research argued that for measuring the effect of the pre & post, M&A, two years is enough due to some external factors longer data will reflect negative results.

Methodlogy

Different methods were identified from prior studies in order to measure the impacts of M&A on firm performance being secondary data in nature, quantitative analyses were undertaken for pre and post-merger periods. Previous research take ratio analysis in their study for measuring the performance of the public and private banks that face mergers, spss and running a t-test at 5% significance level for the measuring the performance of the firms in. Existing litreture, uses different ratios to identify the performance of the manufacturing companies pre mergers and post-merger. Mantravadi and Reddy (2008), Use the different ratios to examine the effects of mergers on the operating performance of corporations in different industries by checking the pre-merger and post-merger performance of the different companies. Kouser and Saba (2011) undertake paired t-tests

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for the different ratios and accounting data. Obtained from the financial sector in banks in Pakistan.

Hypothesis

H$_0a$: There is no significant effect of M&A on profitability ratio.
H$_1a$: There is a significant effect of M&A on profitability ratio.
H$_0b$: There is no significant effect of M&A on the activity ratios.
H$_1b$: There is a significant effect of M&A on activity ratios.
H$_0c$: There is no significant effect of M&A on liquidity ratios.
H$_1c$: There is a significant effect of M&A on liquidity ratios.
H$_0d$: There is no significant effect of M&A on leverage ratios.
H$_1d$: There is a significant effect of M&A on leverage ratios.
H$_0e$: There is no significant effect of M&A on shareholder ratios.
H$_1e$: There is a significant effect of M&A on shareholder ratios.

RESULT AND FINDINGS

TABLE 1. Paired samples statistics

		Mean	*N*	Difference	*p*-value
Pair 1	ROE	-.02280556	36		
	ROE	.32886042892	36	-.351665984472	.495
Pair 2	ROA	-.06980556	36		
	ROA	.01024487850	36	-.080050434056	.391
Pair 3	NPM	-.04713499631	36		
	NPM	.04165082225	36	-.088785818556	.256
Pair 4	TAT	.89884754364	36		
	TAT	.64826942536	36	.250578118278	.588
Pair 5	EM	7.42851444750	36		
	EM	15.08454550839	36	-7.656031060889	.206
Pair 6	DPS	6.72483974408	36		
	DPS	4.00947624567	36	2.715363498417	.337
Pair 7	TLTA	.80778219956	36		
	TLTA	.75338294481	36	.054399254750	.284
Pair 8	DTE	6.42851444761	36		
	DTE	13.21669113156	36	-6.788176683944	.233
Pair 9	CR	.19221780044	36		
	CR	.24349041900	36	-0.051272618556	.314

Interpretation

In Table 1, the mean value of the ROE before the M&A is -0.02280556, while the mean value of the after the M&A is 0.32886042892. The difference in mean value between pre and post M&A is -0.351665984472, which indicates that due to M&A, the ROE is increased. (Note that we find the difference by subtracting the mean value of post-merger from the mean value of pre-merger). The *p*-value or significance value for ROE is .495, which is greater than 0.05 ($P = .495 > 0.05$), indicates that due to M&A, there is an insignificant difference in ROE ratio. Before the M&A, the mean value of Return On Asset (ROA) -0.06980556, while after the M&A, the mean value of ROA is 0.01024487850. The change in the mean value of ROA due to M&A is -0.080050434056, which shows that due to M&A, ROA is increased. The *p*-value for ROA is .391, which is greater than 0.05 ($P = .391 > 0.05$), specifies that there is an insignificance difference in ROA due to M&A. In Table 1, the mean value of Net Profit Margin (NPM) before M&A is -0.04713499631 and after the M&A the mean value is 0.04165082225. The variability in mean value due to M&A is -0.088785818556, representing that due to M&A, the NPM is increased. In Table 1, the significance value for net profit margin is .256, which is greater than 0.05, representing that the difference in the mean value of NPM is insignificant. In Table 1 of, the mean value of the total asset turnover before the M&A is 0.089884754364, while after the M&A, the mean value is 0.64826942536, and the mean value difference between pre-merger and post-merger is 0.250578118278. Which indicates that due to M&A the asset turnover decrease. The

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p-value for total asset turnover is .588, which is greater than 0.05, which implies that due to M&A, there is an insignificance difference in the mean value of total asset turnover. In Table 1, the mean value of the EM is 7.42851444750, and after the merger, the mean value of the equity of multiplier is 15.084545550839. The difference in the mean value of EM due to M&A is -7.656031060889, which shows that due to M&A, the ratio of EM increased. The p-value for the EM is the .206, which is greater than 0.05, which shows that there is an insignificant difference in the EM ratio due to M&A. The mean value of DPS before the M&A is 6.72483974408, and after the M&A, the mean value is 4.00947624567. The difference in the mean value due to M&A is 2.715363498417, which show that due to M&A, the DPS is decreased. The significance p-value for DPS is .337, which is greater than 0.05, indicates that due to the M&A, there is an insignificance difference in the mean value of DPS. The mean value of the total asset and total liabilities is 0.80778219956, and after the M&A, the mean value of a total asset to total liabilities is 0.75338294481. The difference in the mean value is 0.054399254750, which indicates that due to M&A, the mean value of a total asset to total liabilities is decreased. The significance value for total assets and total liabilities is .284. It is greater than 0.05, indicating that there is an insignificance difference in the mean value of total asset and total liabilities ratio due to the M&A. The mean value of the D/E ratio before M&A is 6.42851444761; after M&A, the mean value of D/E ratio is 13.21669113156 the difference in the mean value of D/E ratio is -6.788176683944, this indicates that due to M&A the ratio of debt to equity is increased. For the D/E ratio, the p-value is .233, which is greater than 0.05, which shows that due to the M&A, there is an insignificance difference in the mean value of the D/E ratio. In Table 1, the mean value of the capital ratio before the M&A is 0.19221780044, and after the M&A, the mean value is 0.24349041900. The difference in the mean value of the capital ratio is -0.051272618556, which indicates that due to M&A, the capital ratio is increased. The p-value for the capital ratio is .314, which is also greater than 0.05, indicates that there is an insignificance difference in the mean value of the capital ratio due to the M&A.

Financial Sector

TABLE 2. Paired samples statistics

		Mean	*N*	Difference	*p*-value
Pair 1	ROE	.09232400928	18		
	ROEA	1.05235669439	18	-.960032685111	.211
Pair 2	ROA	.01116192422	18		
	ROAA	.00689421778	18	.004267706444	.635
Pair 3	NPM	.02808594278	18		
	NPMA	.09581400017	18	-.067728057389	.444
Pair 4	TAT	.16240950706	18		
	TATA	.11107221833	18	.051337288722	.166
Pair 5	EM	11.87738775928	18		
	EMA	25.65416003817	18	-13.776772278889	.253
Pair 6	DPS	1.15907391239	18		
	DPSA	1.35751447761	18	-.198440565222	.887
Pair 7	TLTA	.84653408578	18		
	TLTAA	.75780672078	18	.088727365000	.289
Pair 8	DTE	10.87738775944	18		
	DTEA	23.63101740439	18	-12.753629644944	.260
Pair 9	CR	.15346591422	18		
	CRA	.23594000683	18	-.082474092611	.326

Interpretation

Table 2 is used to compare the pre and post-merger financial performance of the financial sector. In the financial sector, the mean value of ROE before the M&A is .09232400928, while the mean value of ROE after the M&A is 1.05235669439. The difference in the mean value before and after the M&A is -.960032685111, which indicates that due to M&A, ROE is increased. The significance

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value for ROE is .211, which is greater than 0.05, representing that there is an insignificant difference in ROE ratio due to M&A. The mean value of ROA before the M&A is .01116192422, while after the M&A, the mean value is .0068942178. The difference in the mean value before and after the M&A is .004267706444, which indicates that the ROA is decreased after the M&A. The significance value for ROA is .635, which is greater than 0.05, indicating that due to M&A, there is insignificant difference in ROA. In Table 2, the mean value of the net profit margin before the M&A is .0280859428, while after the M&A, the mean value is .09581400017. The difference in the mean value before and after the M&A is 067728057389, which indicates that there is a positive change in the net profit margin. The *p*-value for the net profit margin is .444, which indicates that there is an insignificant difference because the *p*-value is greater than 0.05. The mean value of total asset turnover before the M&A is .16240950706, and after the M&A, the mean value is 0.11107221833. The difference in the mean value before and after the M&A is .051337288722, which indicates that due to M&A, the total asset turnover decreased. The significance/*p*-value for total asset turnover is .166, which specifies that there is an insignificant difference in total asset turnover because its *p*-value is greater than 0.05. In Table 2, the mean value of the EM before the M&A is 11.877387765928, while after the M&A, the mean value of the EM is 25.65416003817.

The difference in the mean value of the EM due to M&A is -13.776772278889, which show a positive change in the EM and indicate that due to M&A and EM is increased. The *p*-value for the EM is .253, which shows that due to M&A, there is an insignificant difference in the EM because the *p*-value of the EM is greater than 0.05. The mean value of DPS before M&A is 1.15907391239, and after M&A, the mean value is 1.35751447761. The difference in the mean value before and after the M&A is -198440565222, which indicates that due to M&A, there is a positive change in DPS. The *p*-value for DPS is .887, which means that there is an insignificant difference in DPS because its *p*-value is greater than 0.05. In Table 3, the mean value of a total asset to total liabilities before the M&A is .84653408578, and after the M&A is .75780672078. The difference in the mean value due to M&A is 088727365000, representing that the ratio of a total asset to total liabilities is decreased. The significance/*p*-value for a total asset to total liabilities is .289, which is greater than 0.05, indicating that due to M&A, there is an insignificant difference in the ratio of a total asset to total liabilities. Before the M&A, the mean value of D/E ratio is 10.87738775944, and after the M&A, the mean value of debt-equity ratio is 23.63101740439. The difference in the mean value due to M&A is -12.753629644944, which indicate that due to M&A D/E ratio is increased. The *p*-value for the D/E ratio is .260, which is greater than 0.05, indicate that due to M&A, there is an insignificant difference in the D/E ratio. In Table 2, the mean value of the capital ratio before the M&A is .15346591422, and after the M&A, the mean value of the capital ratio is 23594000683. Due to M&A, there is a difference of 082474093, which indicate that the capital ratio is increased. The *p*-value for capital ratio is .326, which indicates that due to M&A, there is an insignificant difference in capital ratio because its *p*-value is greater than the 0.05.

NON-FINANCIAL SECTOR

TABLE 3. Paired samples statistics

		Mean	*N*	Difference	*p*-value
Pair 1	ROE	-.13796933450	18		
	ROEA	-.39460338411	18	.256634049611	.716
Pair 2	ROA	-.15069136944	18		
	ROAA	.01362827533	18	-.164319644778	.385
Pair 3	NPM	-.12235593539	18		
	NPMA	-.00634705444	18	-.116008880944	.393
Pair 4	TAT	1.63528558022	18		
	TATA	1.27233088500	18	.362954695222	.704
Pair 5	EM	2.97964113572	18		
	EMA	4.22208928394	18	-1.242448148222	.592
Pair 6	DPS	12.29060557578	18		
	DPSA	7.22718411722	18	5.063421458556	.373

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Table 3. continue.......

		Mean	*N*	Difference	*p*-value
Pair 7	TATL	.76903031333	18		
	TATLA	.74895916883	18	.020071144500	.742
Pair 8	DTE	1.97964113578	18		
	DTEA	2.80236485872	18	-.822723722944	.721
Pair 9	CR	.23096968667	18		
	CRA	.25104083117	18	-.020071144500	.742

Interpretation

In Table 3, the mean value of the ROE before M&A is -.13796933450, while the mean value of the ROE after the M&A is -.39460338411. The difference in the mean value due to M&A is .256634049611, which indicates that ROE decreases after the M&A. The *p*-value for ROE is .716, which is greater than 0.05, indicate that due to M&A, there is an insignificant difference in ROE. The mean value of return on an asset before the M&A is -.15069136944 and after the M&A, the mean value of return on an asset is .01362827533. The difference in the mean value due to M&A is -.164319644778, which indicates that there is an increase in ROA. The *p*-value or significance value for ROA is .385, which indicates that there is an insignificant difference in ROA because its *p*-value is greater than the 0.05. In Table 3 , the mean value of net profit margin before M&A is -.12235593539, While the mean value of net profit margin after the M&A is -.00634705444. The difference in the mean value due to M&A is -.116008880944. Which indicates that because of M&A, there is an increase in the net profit margin. The *p*-value for net profit margin is .393, which is greater than 0.05, indicating that there is an insignificance difference in the net profit margin after the M&A. The mean value of total asset turnover before the M&A is 1.63528558022, and after the M&A, the mean value of total asset turnover is 1.27233088500. There is a difference of .362954695222. In total asset turnover represents that due to M&A, the total asset turnover is decreased. The significance value or *p*-value for total asset turnover is.704, which is greater than 0.05, indicating that there is an insignificance difference in the total asset turnover due to M&A. In Table 3, the mean value of the EM before the M&A is 2.97964113572 and the mean value EM after the M&A is 4.22208928394. The difference in the mean value of EM due to M&A is -1.242448148222, which indicates that due to M&A, the ratio of EM is increased. The significance value for the EM is .592, which is greater than 0.05, which indicates that there is an insignificance difference in the EM ratio because its significance value is greater than 0.05. Before the M&A, the mean value of DPS is 12.29060557578, and after the M&A, the mean value is 7.22718411722. The difference in the mean value of DPS is 5.063421458556, which indicates that due to M&A, the DPS is decreased. The *p*-value for DPS is .373, which is greater than 0.05, indicating that due to M&A, there is an insignificance difference in DPS. In Table 3, the mean value of a total asset to total liabilities before the M&A is .76903031333, and after the M&A, the mean value of a total asset to total liabilities is .74895916883. The difference in the mean value is 0.20071144500. This shows that due to M&A, the ratio of a total asset to total liabilities is decreased. The *p*-value for a total asset to total liabilities is .742, which is greater than 0.05, indicating that due to M&A, there is an insignificance difference in the ratio of a total asset to total liabilities. In Table 3, the mean value of the D/E ratio before the M&A is 1.97964113578, while the mean value of the D/E ratio after the M&A is 2.80236485872. The difference in the mean value due to M&A is -822723722944, which indicates that because of M&A, the ratio of debt to equity is increased. The significance value for the D/E ratio is .721, which is greater than 0.05, indicating that because of M&A, there is an insignificance difference in D/E ratio. The mean value of the capital ratio before the M&A is .23096968667, and after the M&A, the mean value of the capital ratio is .25704083117. The difference in the mean value is -020071144500, which shows that due to M&A, the capital ratio is increased. The significance value for the capital ratio is .742, which is greater than 0.05, indicating that due to M&A, there is an insignificance difference in the capital ratio.

CONCLUSION

Many researches have been done all over the world to study the impact of this particular strategy on firm financial performance in different sectors. The main aim of this study is to investigate the effect of M&A on the financial performance of the financial sector and non-financial sector in the context of Pakistan. To fulfill the main objective of the research, we use two statistical techniques; first, we used a different group of ratios to measure the performance of firms listed in financial and non-financial sectors. In the

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second step, we used paired sample t-test to compare the pre and post-merger financial performance of the firms. For measuring the financial performance, we use the profitability ratio, leverage ratio, activity ratio, and the shareholder ratio. After the calculation of these ratios, we apply paired t-test for comparison. Based on the result we find that due to M&A, the profitability ratios increase and show an insignificance difference. Result shows that the activity ratio doesn't perform well in both the financial and non-financial sectors because, in the asset turnover ratio, there is an insignificance difference. In the case of the leverage ratio, we apply the EM ratio, total liabilities to total asset ratio, D/E ratio, and capital ratio. Our result shows that due to M&A, some of these ratios like EM, D/E ratio, and capital ratio are increased. In comparison, the ratio of total liabilities to a total assets decreases and shows an insignificance difference. In the case of the shareholder ratio, the DPS decreases and shows an insignificant difference.

After the combined analysis, we compare the effect of M&A on financial performance in financial and non-financial sectors individually. In the financial sector, we conclude that there is an insignificance positive difference in ROE ratio. At the same time, the ROA shows an insignificance negative difference after the M&A. in the case of net profit margin; there is an insignificance positive difference. In leverage ratio, we find that there is insignificance positive difference in EM, debit to equity, and capital ratio, while total asset to total liabilities shows insignificance negative difference after the M&A. other financial indicators like activity ratio and shareholder ratio show insignificance positive difference after the M&A.

In non-financial sector, our findings revealed that due to M&A, some profitability ratios like ROA and net profit margin show insignificance and positive difference, while ROE shows insignificance and negative difference. Inactivity ratio, total asset turnover shows insignificance and negative difference. In the case of leverage ratio EM, debt to equity and capital ratio shows insignificance positive difference. In contrast, the ratio of total liabilities to total assets shows insignificance negative difference, and in the shareholder ratio, the DPS shows insignificance negative difference after the M&A.

FUTURE RESEARCH RECOMMENDATION

This study focused on the Pakistan context, while in the future, the research can be conducted across the border furthermore, primary research can also be effective in the very specific topic in Pakistan

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