

## The Impact of Merger and Acquisition on the Profitability of Medium Sized Technology Companies Listed on New York Stock Exchange

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### Abstract

**Objective:** The purpose of the study is to identify the influence of merger and acquisition on the technology companies' profitability.

**Method:** Therefore, the five medium-sized technology companies, listed on New York Stock Exchange, and profitability ratios, including return on assets, return on equity, and earnings per share, have been selected. The Independent sample T-test is used for this study. The financial data that has been gathered from the U.S. Securities and Exchange Commission, companies' annual reports, and NASDAQ website over the period from 2003 to 2020.

**Results:** The results indicate that the earnings per share ratio increased while both returns on assets and return on equity ratios deteriorated. However, the earnings per share ratio significantly improved and the return on equity significantly declined while there was no significant impact on return on assets. The study concludes that the overall profitability decreased whereas the earnings per share faced a significant rise and return on equity ratios was found to be decreased significantly.

**Originality / Relevance:** This study is one of the few studies which have evaluated the effect of the merger and acquisition on the profitability of medium-sized technology companies listed on New York Stock Exchange, over the period from 2003 to 2020.

**Theoretical/methodological contributions:** The paper contributes to the existing literature on merger and acquisition by providing empirical evidence of the impact of merger and acquisition on profitability.

**Social/management contributions:** This study will help technology investors and investment management companies to make investment decisions, and can also be helpful for the acquirer companies to handle the consequences of the merger on profitability.

**Keywords:** Profitability, return on assets, return on equity, earnings per share, Technology companies, New York Stock Exchange, Merger and acquisition

**JEL Classification:** G34, L19, L25

## L'impact des fusions et acquisitions sur la rentabilité des entreprises technologiques de taille moyenne cotées à la bourse de New York

### Résumé

**Objectif :** Le but de l'étude est d'identifier l'influence des fusions et acquisitions sur la rentabilité des entreprises technologiques.

**Méthode :** Par conséquent, les cinq entreprises technologiques de taille moyenne, cotées à la Bourse de New York, et les ratios de rentabilité, y compris le rendement des actifs, le rendement des capitaux propres et le bénéfice par action, ont été sélectionnés. Le test T pour échantillon indépendant est utilisé pour cette étude. Les données financières qui ont été recueillies auprès de la Securities and Exchange Commission des États-Unis, des rapports annuels des entreprises et du site Web du NASDAQ sur la période de 2003 à 2020.

**Résultats :** Les résultats indiquent que le ratio de bénéfices par action a augmenté tandis que les ratios de rendement des actifs et de rendement des capitaux propres se sont détériorés. Cependant, le ratio bénéfice par action s'est considérablement amélioré et le rendement des capitaux propres a considérablement diminué alors qu'il n'y a eu aucun impact significatif sur le rendement des actifs. L'étude conclut que la rentabilité globale a diminué lorsque le bénéfice par action a fait face à une augmentation significative et que les ratios de rendement des capitaux propres ont diminué de manière significative.

**Originalité / Pertinence :** Cette étude est l'une des rares études qui ont évalué l'effet de la fusion et acquisition sur la rentabilité des entreprises technologiques de taille moyenne cotées à la Bourse de New York, sur la période de 2003 à 2020.

**Contributions théoriques/méthodologiques :** L'article contribue à la littérature existante sur les fusions et acquisitions en fournissant des preuves empiriques de l'impact des fusions et acquisitions sur la rentabilité.

**Contributions sociales/de gestion :** cette étude aidera les investisseurs technologiques et les sociétés de gestion d'investissement à prendre des décisions d'investissement, et peut également aider les sociétés acquéreurs à gérer les conséquences de la fusion sur la rentabilité.

**Mots-clés:** Rentabilité, rendement des actifs, rendement des capitaux propres, bénéfice par action, Entreprises technologiques, Bourse de New York, Fusion et acquisition

**Classification JEL :** G34, L19, L25

## 1. INTRODUCTION

The corporate world has faced a significant rise in merger and acquisition causing a great change in the world market through giving rise to globalization. The impact of merger and acquisition is not limited to the acquirer and target companies but also influences the governments, investment bankers, stock markets, and consequently the society as a whole (Kumar and Kaur, 2020). In the U.S market, the number of larger merger and acquisition (M&As) deals has been rapidly growing since 2015. As per the Thomson Reuters data, these M&As deals, consisting of about 547 merger and acquisitions with the value of more than 2 trillion dollars, which was about eighty-five percent of the total merger and acquisition value, contributed ten percent to the U.S GDP (Hu et al 2020).

Merger and acquisition is considered to be a corporate restructuring strategic tool to achieve growth, in which all the assets, liabilities, loans and businesses are combined under the acquirer or surviving company. Globally, firms implement merger and acquisition strategy to expand, decrease the number of competitors, and become the large entity in the national market and international markets, which ultimately lead to high business growth (Patel, 2018).

Furthermore, (Kumaraswamy et al 2019) merger and acquisition is not only viewed as a strategy for business expansion but also for enhancing financial performance and continuing to increase the profitability of the companies that opt for this strategic action. Pazarskis et al. (2018) Merger and acquisition can drastically influence and change the value of a company in a short run. However, the profitability of the firms, following the merger, does not result in improvement all the time while there can be deterioration in the profitability as well. Therefore, the merger can enhance financial performance or can decrease financial performance, and can completely destroy value of money invested in acquisition activity or can keep the value at zero. As a result, there is a great controversy and debate over the topic of merger and acquisition in terms of profitability.

The empirical studies show that the profitability significantly deteriorated following the merger and acquisition (Edi and Leony 2019, Shrestha et al 2017, Gupta and Banerjee 2017), while other study highlights that there was insignificant decline in the profitability of the sampled companies (Abbas et al 2014, Strasek and Gubensek 2016, Kumaraswamy et al 2019). However, some studies point out that the profitability of the experimented companies enhanced significantly following the implementation of merger and acquisition strategy (Al-Hroot et al 2020, Joashand Njangiru 2015), whereas there was insignificant improvement in the profitability during the post-acquisition period (Al-Hroot, 2016).

There have been inconclusive results provided by previous studies on the impact of profitability of the companies which choose to undergo merger and acquisition. Therefore, this study is aiming to fill this gap by narrowing down its focus on the profitability variable and evaluating the impact of merger and acquisition strategy on the profitability. Moreover, the paper aims to fill this gap by contributing to the empirical evidence to the existing literature in the field of merger and acquisition and would add to the knowledge of the experts dealing with the merger and acquisition deals. Also, it would help to enhance the in depth understanding and knowledge of the people in the academia and, furthermore, it would be helpful for investors in terms of making investment decision to invest in the New York Stock exchange listed medium sized technology companies during the times of merger and acquisitions.

The sequence of the paper is in the following way: section number two is literature review, section number three is methodology, section number four is results and discussion and section five is conclusion.

## 2. LITERATURE REVIEW

Previous studies have made empirical contributions to find the impact of merger and acquisition on the profitability of the companies belonging to a wide range of sectors and industries. In 2017, Mubeen and Nagaraju (2017) conducted a study to find the impact of merger and acquisition on the Indian companies. The statistical results of paired sample t-test revealed that the profitability deteriorated because the return on capital employed and earnings per share of the companies declined significantly following the merger. Similarly, Mardiantoet al. (2018) used paired sample t-test and concluded that the net profit margin and return on capital employed, of the selected companies, decreased insignificantly after the merger and acquisition activity. NeethuandVishwanathan (2015) proposed that net profit margin; return on capital employed had a significant impact while earnings per share, often Indian experimented companies, had no significant effect during the post-acquisition period of five years.

Omoye andAniefor (2016) did a case study analysis of the merger between Access Bank PLC and Intercontinental Bank PLC. It was concluded that the overall profitability, including Return on Equity, net profit margin, return on assets, Gross Profit Margin,return on capital employed, and Interest Paid to Total Deposit, of the Access Bank PLC increased after the both Nigerian banks merged. Moreover, Singhand Gupta (2015)found that there was a statistical significantly impact of the profitability ratios, such as Net Profit Margin, Return on Capital Employed, Return on Net Worth, of ICICI bank after the business merged, while there was insignificant effect on the earnings per share ratio.

Pazarskiset al. (2021) applied regression models on the financial ratios of the thirty-three companies listed in Greece. Overall, it was concluded that the merger and acquisition had a positive significant impact. Furthermore, the conglomerate merger and acquisition found to have more positive influence on the profitability of the selected companies than the non-conglomerate merger and acquisition in terms of industry relatedness. Similarly, Braguinskyet al. (2015) opted for ordinary least squares as a statistical analysis tool and explored that productivity and profitability of the Japanese companies, in the cotton spinning industry, increased during the post-acquisition period.

In addition, Azhagaiah andSathishkumar (2014) explained, using multiple regression, correlation matrix, factor analysis, and chow test, that return on equity of the thirty-nine manufacturing Indian companies found to be positively and significantly related to the merger and acquisition strategy implementation. Also, Aggarwal and Garg (2019)analyzed sixty-eight mergers and acquisitions in the study, and the results of the t test revealed that the liquidity and profitability of the sampled companies enhanced positively and significantly following the five years of the merger and acquisition activity.

However, Lakstutieneet al. (2015) proposed that the profitability, including return on assets, return on equity, net profit margin, and Net operating profit after taxes, of the NASDAQ OMX Vilnius Stock Exchange-listed Lithuanian companies deteriorated in the short run following the acquisition period. Similarly, Duggal (2015) supported that the merger and acquisition had a short term positive impact on the Bombay Stock exchange-listed pharmaceutical companies while profitability declined in the period between three to five years after the merger and acquisition activity. Furthermore, Liu et al. (2021) applied feasible generalized least squares regression on eighty-six cross-border merger & acquisitions and eight-one domestic merger & acquisitions, and concluded that the financial performance, on the whole, did not face an improvement. Also, the profitability of the sampled Chinese companies, including state-owned firms, in cross-border mergers deteriorated whereas the domestic merger and acquisition companies found to have enhanced profitability in terms of return on assets and return on equity after the merger.

Nagasha et al. (2017) observed 234 merger and acquisition deals completed in Africa, during the period from 2005 to 2015 and explained that domestic merger and acquisition had more positive impact on the firm performance than the cross-border merger. Contrarily, Pervan et al. (2015) considered 116 Croatian companies to identify the influence of M&A between 2008 and 2011. The study proved that M&A was noticed to have no significant effect on the profitability of the selected companies, besides the profitability of these companies showed no significant change even when compared to the profitability of peer companies. Furthermore Polemis and Karlis (2016) took twenty companies, relating to the worldwide maritime transportation industry, which underwent merger and acquisition during the period between 1998 and 2009. The Wilcoxon signed rank test results indicated that the profitability of the experimented companies significantly deteriorated after the merger and acquisition strategy was implemented. Similarly, Strasek and Gubensek (2016), utilized data of twenty nine Slovenian mergers over the period ranging from 2005 to 2008, and proposed that the overall performance was declined, and particularly the profitability of these Slovenian companies displayed no significant difference in term of return on equity during the post-merger period.

The profitability ratios, return on equity, return on assets, total assets response rate, gross profit margin, and net profit margin on sales, of Media Group showed little response following the acquisition of Wuxi Little Swan Group in 2019 (Li, 2021). Likewise, Kotnal (2016) analyzed the acquisition of Centurion Bank of Punjab Ltd by SBI Bank Ltd in 2008, and the results indicated that the profitability, including Net Profit Margin, Return on Assets, Return on Equity, Earning per Share, was positively impacted by merger and acquisition strategy, however, this improvement did not prove to be statistically significant. Similarly (Rashid and Naeem, 2017) Ordinary Least Square and Bayesian Estimation results concluded that the profitability ratios, such as Return on Asset and Profit Margin, of the twenty-five non-financial Pakistan Stock Exchange-listed companies, between 1995 and 2012, were not significantly changed during the post-merger and acquisition activity. In the same way, Pahuja and Aggarwal (2016) conducted a study on nine mergers in Indian banking sector during the year from 2000 to 2014 and supported that the profitability of these nine Indian banks found to have no significant impact of merger and acquisition following the acquisition.

Conversely, Jallow et al. (2017) observed 40 London Stock Exchange-listed companies that underwent merger and acquisition in the year 2011, and used paired sample T-test whose results illustrated that the Return on Assets, Return on Equity had a negative significant impact while, earnings per share had a positive significant of merger and acquisition. Similarly, Abdelrahman and Elgiziry (2019) analyzed seventeen Egyptian stock exchange listed companies in the industrial sector over the period from 2003 to 2015, and applied nonparametric Mann-Whitney-Test. The results indicated that merger and acquisition strategy had a negative significant impact on the profitability of the experimented acquired companies. Arlinda and Saptono (2015) found that the return on assets of Bakrie Telecom, which is one of the five sampled Indonesian telecommunication companies listed on Jakarta stock exchanges, found to have significant influence of merger and acquisition. However, (Larasati et al 2018) the Wilcoxon Signed Rank Test results showed that net profit margin, of twenty-four Indonesian Stock Exchange listed companies, decreased insignificantly following the merger and acquisition strategy.

Furthermore, Ayoushet al. (2020) explored that the return on assets, net profit margin and return on equity, of ten non-financial Jordanian public companies, found to have significant impact of merger and acquisition. (Pazarskis et al 2018) However, the return on equity of thirty Greek listed companies improved following the merger and acquisition but this increase was insignificant. In comparison, (Kumaraswamy et al 2019) the return on assets and net profit margin of Gulf Cooperation Council firms had a negative relationship with merger and acquisition while this decline was insignificant.

### 3. METHODOLOGY

The purpose of this section is to explain the tools have been used to evaluate the impact of merger & acquisition on profitability. It includes three points such as variables and sources of data, model specification, and method of data analysis.

#### 3.1. Variables and sources of data

The study uses the three variables, shown Table 2, including return on assets, return on equity, and earnings per share, to identify the impact of M&A on the profitability of the experimented technology companies. Many studies have also used these variables, which shows that these variables are found to be appropriate for finding the influence of M&A on profitability (Masud 2015, Bhutta et al 2015, Bedi 2018, Shrestha et al 2018, Ansari and Mustafa 2018).The ratio analysis has been conducted for six years consisting of three years before the merger and acquisition and three years after the merger and acquisition, including the merger year.

Five New York Stock Exchange-listed technology companies, displayed in Table 1, have been selected for the study. The sampled companies belong to different industries, such as Professional Services, Electrical Products, Diversified Commercial Services, Computer Software & Peripheral Equipment and Diversified Commercial Services respectively.

The data for this study has been gathered from annual reports of the sampled companies, the U.S. Security Exchange Commission and NASDAQ. As per the categorization of NASDAQ, these five companies are medium-sized technology companies listed on New York Stock Exchange as their market capitalization ranges from \$2 Billion to \$10 Billion. According to the annual reports of these companies, the selected technology companies did mergers and acquisitions between 2006 and 2018. Therefore, the study period comprises of 2003 to 2020.

#### 3.2. Model specification:

The two sample sets, pre-and-post merger, are of the same size. Therefore, Independent sample t-test has been applied on the selected data having normal distribution with equal variances. The equal variance in two tail Independent sample t-test has been assumed because the  $p$  value of Levene's Test for Equality of Variances is greater than 0.05. (Heeren and D'Agostino, 1987, Derrick et al 2018).

$$t = \frac{\bar{x}_1 - \bar{x}_2}{S_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

$$S_p = \sqrt{\frac{(n_1-1)S_1^2 + (n_2-1)S_2^2}{n_1 + n_2 - 2}}$$

Degree of freedom(df) =  $n_1 + n_2 - 2$

The explanation of the symbols is given as  $\bar{x}_1$  = Pre-Merger Mean,  $\bar{x}_2$  = Post-Merger Mean,  $n_1$  = Sample size (i.e., number of observations are 5) of Pre-Merger,  $n_2$  = Sample size (i.e., number of

observations are 5) of Post-Merger,  $s_1$  = Standard deviation of Pre-Merger,  $s_2$  = Standard deviation of Post-Merger, and  $s_p$  = Pooled standard deviation.

### 3.3. Method of data analysis:

The statistical tool, independent sample t-test, has been applied on three variables, return on assets, return on equity, and earnings per share, to identify the influence of M&A on the profitability ratios (Omotayo 2019, Khan 2011). It is applied three years before the merger and three years after the merger and acquisition. Finally SPSS is utilized to conduct the independent sample t-test on the collected dataset of five experimented companies. The 95 percent confidence level has been used. Therefore, it will not only help to explain whether there is an increase or decrease in the three variables but also will explain whether there is a significant impact or insignificant impact of M&A on variables.

**Table 1: Name of acquirer and target companies**

No.	Acquirer Companies	Target Companies	Merger and acquisition Year	Industry of Acquiring Companies
1	ASGN Inc.	Apex Systems, Inc.	May 15, 2012	Professional Services
2	Jabil Inc.	Taiwan Green Point Enterprises Co. Ltd	Nov 22, 2006	Electrical Products
3	Korn Ferry	Personnel Decisions International Corp.	Jan 02, 2013	Diversified Commercial Services
4	Synnex Corp.	Convergys Corporation	Oct 05, 2018	Computer Software & Peripheral Equipment
5	AerCap Holdings N.V.	Genesis Lease Limited	Mar 25, 2010	Diversified Commercial Services

**Table 2: Selected variables of the study**

Parameters	Variables	Code
Profitability	Return on Assets	ROA
	Return on Equity	ROE
	Earnings Per Share	EPS

## 4. RESULTS AND DISCUSSION

This section shows the analysis of profitability ratios, return on assets, return on equity, and earnings per share of selected technology companies, including ASGN, Jabil, Korn Ferry, Synnex, and AerCap. It also shows the statistical values of pre-merger, post-merger, mean difference, t-value and p-value obtained with help of SPSS. It explains the profitability ratios increased or decreased following the merger and acquisition. Moreover, it shows whether the change has been significant or insignificant in the profitability ratios of the selected companies after the merger and acquisition activity.

**Table3: Analysis of profitability ratios of ASGN Inc**

Profitability Ratio	N	Before-Merger	After-Merger	Mean Difference	T	p-value	↑↓
ROA	3	0.0367	0.0720	-0.0353	-1.696	0.165	↑
ROE	3	0.0173	0.0797	-0.0623	-2.115	0.102	↑
EPS	3	0.1667	1.2967	-1.1300	-3.364	0.028	↑

Sources: SPSS output

**Table 3** displays the analysis of profitability ratios, Return on assets, return on equity, and earnings per share, of ASGN Inc. It shows that return on assets, return on equity, and earnings per share of ASGN Inc have increased following the merger and acquisition while there is no decline in any of the three financial ratios of this company. Also, there has been a partial significant impact of merger and acquisition on the profitability ratios of ASGN Inc because the earnings per share have improved significantly during the post-acquisition period, however, the return on assets, return on equity have increased insignificantly following the M&A.

**Table4: Analysis of profitability ratios of Jabil Inc**

Profitability Ratio	N	Before-Merger	After-Merger	Mean Difference	T	p-value	↑↓
ROA	3	0.0347	0.0257	0.0090	0.696	0.525	↓
ROE	3	0.0527	0.0343	0.0183	0.937	0.402	↓
EPS	3	0.7300	0.6000	0.1300	0.436	0.686	↓

Sources: SPSS output

**Table 4** indicates the analysis of profitability ratios, Return on assets, return on equity, and earnings per share, of Jablin Inc. It shows that the return on assets, return on equity, and earnings per share of Jablin have decreased during the post-acquisition period. The profitability ratios of Jablin faced no increase after the merger and acquisition. However, the merger and acquisition found to have no significant influence on the profitability ratios of Jablin Inc because return on assets, return on equity, and earnings per share have not declined significantly following the merger and acquisition strategy implementation.

**Table 5: Analysis of profitability ratios of Korn Ferry**

Profitability Ratio	N	Before-Merger	After-Merger	Mean Difference	T	p-value	↑↓
ROA	3	0.0417	0.0460	-0.0043	-0.221	0.836	↑
ROE	3	0.0457	0.0570	-0.0113	-0.498	0.645	↑
EPS	3	0.8633	1.3333	-0.4700	-0.954	0.394	↑

Sources: SPSS output

**Table 5** illustrates the analysis of profitability ratios, Return on assets, return on equity, and earnings per share, of Korn Ferry. The results show that the return on assets, return on equity, and earnings per share of Korn Ferry have enhanced following the merger and acquisition while there is no decrease in the financial ratios of Korn Ferry. Moreover, M&A has no significant effect on the profitability ratios of Korn Ferry because return on assets, return on equity, and earnings per share have improved insignificantly during the post-merger period.



**Table 6: Analysis of profitability ratios of Synnex Corp**

Profitability Ratio	N	Before-Merger	After-Merger	Mean Difference	T	p-value	↑↓
ROA	3	0.0507	0.0420	0.0087	2.600	0.060	↓
ROE	3	0.0843	0.0807	0.0037	0.431	0.688	↓
EPS	3	6.2433	9.1000	-2.8567	-2.461	0.070	↑

Sources: SPSS output

**Table 6** displays the analysis of profitability ratios, Return on assets, return on equity, and earnings per share of Synnex Corp. It shows partial results in which Return on assets and return on equity of Synnex Corp have decreased following the merger and acquisition, while earnings per share have increased after the merger and acquisition activity. However, profitability of Synnex Corp faced no significant influence of M&A because the Return on assets, return on equity dropped insignificantly and earnings per share have increased insignificantly during the post-merger period.

**Table 7: Analysis of profitability ratios of AerCap Holdings N.V.**

Profitability Ratio	N	Before-Merger	After-Merger	Mean Difference	T	p-value	↑↓
ROA	3	0.0257	0.0160	0.0097	2.211	0.092	↓
ROE	3	0.1190	0.0603	0.0587	3.786	0.019	↓
EPS	3	1.9833	1.4067	0.5767	2.416	0.073	↓

Sources: SPSS output

**Table 7** illustrates the analysis of profitability ratios, return on assets, return on equity, and earnings per share, of AerCap Holdings N.V. It shows that the return on assets, return on equity, and earnings per share of AerCap Holdings have decreased following the merger and acquisition activity. However, the merger and acquisition partially significantly impacted the profitability of AerCap Holdings N.V. because the return on equity has decreased significantly while return on assets and returns on equity have deteriorated insignificantly after the implementation of merger and acquisition strategy.

**Table 8: Company-wise and ratio-wise comparison**

Companies	Return on Assets	Return on Equity	Earnings per share	No. of Ratios increased	No. of Ratios decreased
ASGN Inc	↑	↑	↑ *	3	0
Jabil Inc.	↓	↓	↓	0	3
Korn Ferry	↑	↑	↑	3	0
Synnex Corp	↓	↓	↑	1	2
AerCap Holdings N.V.	↓	↓ *	↓	0	3
No. of Ratio Increased	2	2	3	Total	7
No. of Ratio	3	3	2	Total	8

Decreased					
Significantly Increased	0	0	1	Total	1
Significantly Decreased	0	1	0	Total	1




Sources: SPSS output significantly increased  significantly decreased  

Table 8 shows the comparison of the profitability ratios, return on assets, return on equity, and earnings per share, and in terms of increase and decrease. Also, it displays the comparison of five selected technology companies whether the profitability faced improvement or deterioration. Moreover, it shows the comparison of post-merger significant change both ratio-wise and companies-wise.

**4.1. Companies-Wise Analysis**

Table 8 shows the comparison of the profitability of the five tested companies. The return on assets, return on equity, and earnings per share of ASGN have increased following the merger, similarly, the profitability ratios, return on assets, return on equity, and earnings per share, of Korn Ferry have enhanced after the acquisition. Nonetheless, the return on assets, return on equity, and earnings per share of Jabil have deteriorated during the post-acquisition period, also the AerCap’s financial ratios including return on assets, return on equity, and earnings per share have declined after the merger activity. Moreover, the Synnex has showed partial results in which the return on assets and return on equity have decreased while, the earnings per share ratio has increased after the merger and acquisition.

Overall, the profitability ratios, such as the return on assets, return on equity, and earnings per share, of two of the selected technology companies, including ASGN and Korn Ferry, have enhanced, whereas the return on assets, return on equity, and earnings per share of two of the tested technology companies, Jabil and AerCap, have dropped following the merger and acquisition activity. Nevertheless, the profitability ratios, including the return on assets, return on equity, and earnings per share, of Synnex have not entirely increased or decreased after the merger activity.

It also displays whether the M&A have a significant impact on profitability of the experimented companies or not. The results in Table 8 show that the earnings per share ratio of ASGN has increased significantly following the post-acquisition and there is no significant impact on rest of the ratios, return on assets and return on equity, while the return on equity of AerCap has decreased significantly and found to have no significant impact on the return on assets, and earnings per share of AerCap after the merger and acquisition. However, the profitability ratios, the return on assets, return on equity, and earnings per share, of Jabil have not significantly increased or significantly decreased after the merger activity, similarly, the return on assets, return on equity, and earnings per share of Korn Ferry have not declined significantly or enhanced significantly following acquisition. In the same way, it is noticed to have no significant improvement or significant deterioration in the return on assets, return on equity, and earnings per share of Synnex.

**4.2. Ratio-Wise Analysis**

Table 8 also shows that ratio-wise comparison of the effect of merger and acquisition on the identified ratios, including the return on assets, return on equity, and earnings per share. The return on assets ratio of the ASGN increased during the post-merger period, similarly, the return on assets ratio of Korn Ferry enhanced after the acquisition while, the return on assets ratio of one of the experimented technology company, Jabil, has dropped after the merger and acquisition strategy implementation. In addition, the return on assets ratio of Synnex found to have declined after the merger, and the return on assets ratio of AerCap also deteriorated following the implementation of

merger and acquisition strategy. Overall, return on assets decreased after the acquisition. Similarly, ROA decreased after merger (Kumaraswamy et al 2019).

In the same way, AerCap's return on equity ratio noticed to have deteriorated after the acquisition similarly, the return on equity of Synnex has decreased after the acquisition. Moreover, the return on equity of Jabil has declined following the merger and acquisition activity. However, ASGN's return on equity faced an improvement after the merger and acquisition strategy implementation similarly, the return on equity of Korn Ferry increased following the implementation of merger and acquisition strategy. On the whole, return on equity decreased after the merger. This is not in agreement with the study conducted by Omoye and Aniefor(2016).

In comparison, the earnings per share of Synnex have increased after the merger and acquisition activity, in the same way, Korn Ferry's earnings per share ratio faced an improvement during the post-acquisition period. Also, the earnings per share ratio of ASGN has enhanced during post-merger period. However, Jabil's EPS decreased after the acquisition. In the same way, the EPS of AerCap declined after businesses merged. Overall, earnings per share increased following acquisition. Similarly, EPS enhanced after merger (Jallow et al 2017).

Overall, the return on assets have increased in two of the selected companies, ASGN and Korn Ferry, while return on assets of three of the experiment technology companies, Jabil, Synnex, and AerCap, have declined after the merger and acquisition activity. Similarly, the return on equity of three of the tested technology companies, including Jabil, Synnex, and AerCap, have deteriorated following the merger and acquisition whereas, the return on equity of two of the identified companies, ASGN and Korn Ferry, have shown improvement following the implementation of the merger and acquisition strategy. In comparison to return on assets and return on equity, the earnings per share of three of the selected companies, such as ASGN, Korn Ferry and Synnex, faced an enhancement after the merger and acquisition whereas, the earnings per share ratio of two of the experimented companies, Jabil and AerCap, dropped after the implementation of merger and acquisition strategy.

On the whole, the profitability has decreased after the merger and acquisition because the eight of the profitability ratios have declined and seven of the profitability ratios have increased during the post-merger. There is more the deterioration in the profitability ratios than the enhancement in the selected profitability ratios. Despite the fact, increased number of earnings per share ratios exceeded the number of decreased earnings per share ratios of the selected companies. Thus, the earnings per share ratios of the experimented companies showed an improvement after implementing the merger and acquisition strategy. However, decreased number of return on assets ratios found to be more than the declined number of return on assets ratios of the tested technology companies following the merger and acquisition activity, similarly, enhanced number of return on equity ratios found to be less than the improved number of return on equity ratios of the selected technology companies following the merger and acquisition strategy implementation.

#### **4.3. Significant Increase and Decrease**

This section also illustrates ratio-wise comparison of significant increase and significantly decreases. The return on assets ratios of the five selected technology companies, ASGN, Jabil, Korn Ferry, Synnex, and AerCap, did not significantly increase or significantly decrease after the merger and acquisition. Therefore, return on assets ratios of the five identified companies, ASGN, Jabil, Korn Ferry, Synnex, and AerCap, found to have no significant impact of M&A. Similarly, M&A had insignificant influence on return on assets (Kumaraswamy et al 2019), However, there is negative significant impact of M&A on return on assets (Jallow et al 2017).

However, the return on equity of the four of the tested technology companies, including ASGN, Jabil, Korn Ferry, and Synnex, have not significantly improved and also have not significantly dropped

following the implementation of the merger and acquisition strategy, Whereas, the return on equity of AerCap has declined significantly during the post-acquisition period. Thus the merger and acquisition strategy found to have significant negative impact on the return on equity. This is in agreement with result of the study conducted by Jallow et al.(2017). However,M&A had positive and significant impact on return on equity (Azhagaiah and Sathishkumar, 2014). Conversely, there was insignificant impact of M&A on ROE (Pazarskis et al 2018, Kotnal 2016)

In comparison to above, the earnings per share of four of the experimented technology companies, such as Jabil,Korn Ferry,Synnex, andAerCap, noticed to have no significant enhancement or significant deterioration after the merger and acquisition strategy implementation. However, the earnings per share ASGN have significantly improved during the post-merger and acquisition period. So, the merger and acquisition found to have a significant positive impact on the earnings per share. Similarly, earnings per share is positively and significantly related to M&A (Jallow et al 2017), whereas there is negative significant impact of M&A on EPS (Mubeen and Nagaraju, 2017). Moreover, earnings per share have no significant relationship with M&A (Neethu and Vishwanathan 2015, Singh and Gupta 2015).

Overall, the results indicate that there is a neutral significant impact on the profitability ratios of the selected companies, ASGN, Jabil,Korn Ferry,Synnex, andAerCap. Despite the fact, the return on equity ratio is negatively significantly affected by merger and acquisition, while the earnings per share ratio are positively significantly impacted by merger and acquisition strategy.

## 5. Conclusion

The purpose of the paper is to identify the effect of merger and acquisition on the profitability of the five experimented medium sized technology companies listed on New York Stock Exchange. Three variables, including return on Assets, Return on Equity, and Earnings per share, have been selected and independent sample t-test has been applied on the gathered data. The study results show that the overall profitability declined after merger and acquisition because eight profitability ratios decreased and seven profitability ratios increased, which means that the number of decreased profitability ratios is more than the increased number of ratios increased profitability ratios. However, the earning per share ratio enhanced because the number of increased earnings per share ratio have exceeded the number of decreased earnings per share ratio. In comparison, return on assets and return on equity ratios deteriorated because the enhanced number of ratios found to be less than the decreased number of ratios of both return on assets and return on equity ratios. In conclusion, the return on equity significantly decreased and earnings per share ratio significantly increased. However, there is not significant impact on return on assets of the selected companies.

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