Abstract:
This study was aimed to analyze company financial performance before and after merger or acquisition. Financial performance was measured using Current Ratio (CR), Debt to Equity Ratio (DER), Total Assets Turnover (TATO), Inventory Turnover (ITO), Operating Profit Margin (OPM), Return on Assets (ROA), Return on Equity (ROE), while corporate value was measured using Price to Book Value (PBV). This study was limited to manufacturing industry issuers which had merged and acquired between 2003 and 2011. Sample was collected using purposive sampling method and there were 11 companies. Data analysis was statistic parametric analysis using paired sample t-test. Study result found that CR, DER, TATO, ITO, OPM, ROA, ROE, and PBV after merger and acquisition was better than before merger and acquisition, even ROA and ROE showed significant improvement.

Keywords: Merger or Acquisition; Financial Performance; Company Value; Paired Sample T-Test.

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1. Introduction

Strategic decision in financial field could be categorized into investment decision, dividend decision, and financing decision. One of the investment decision that could be used by company is expansion, which is internal and external expansion. External expansion strategy could be done by consolidating several business entities (merger and acquisition), one form of business consolidation frequently done in the last two decades.

Studies had been conducted for company financial performance and company values in association with corporate act in the form of merger or acquisition, with varying results. In measuring company financial performance, those studies used liquidity ratio, solvency, activity, profitability, and market value. Liquidity could be measured using current ratio (CR), while solvency by debt to equity ratio (DER), activity by using total assets turnover (TATO), Inventory Turnover (ITO), profitability by using operating profit margin (OPM), return on assets (ROA), return on equity.
(ROE), and market value by *price to book value* (PBV). Studies results were not always consistent between one study and another.

Aprilia and Oetomo (2015) in their study of company financial performance before and after acquisition in manufacturing company in Indonesia between 2008-2014 found that *current ratio* (CR) had significant alteration, in conjunction with study by Novaliza (2013) which was also in Indonesia and Rani and Jain (2013) in India. Studies with contradictory result were Suryawathy (2014) study in Indonesia and Ahmed and Ahmed (2014) study in Pakistan, where liquidity was not increased significantly after company merger.

Sharma (2013), in his study found that *debt to equity ratio* (DER) had significant change after company merger, but this result was contradicting to study by Kurniawan and Widyarti (2011), where they found that DER had no significant change, but based on descriptive data there was slight increase. Similar result was brought by Abbas *et al* (2014), where their study result showed that there was no improvement in *leverage* in merging company.

Annisa and Prasetiono (2010) in their study found that *total assets turnover* (TATO) had been better after company merger, this was in line with study by Aprilia and Oetomo (2015), but not with study by Yonathan and Ancella (2013) stating that there was no significant differences in *total assets turnover* after the company had merged or acquired.

On *operating profit margin* (OPM), Widyaputra (2006) found that OPM post merger or acquisition had significant decline compared with before merger or acquisition, while Harjeet and Jiayin (2013) found that OPM post merger or acquisition was not significantly different. This result was not in accordance with study by Rani and Jain (2013), where they found that there was increase of company performance regarding profitability.

On *return on assets* (ROA), Sisbintari (2011) study and Kumara and Satyanarayana (2013) study in Indonesia and Rani and Jain (2013) in India found that ROA had increased significantly after company merger or acquisition. This was in contrast with studies by Sharma (2013) in India and Harjeet and Jiayin (2013) in China. In studies by Payamta and Setiawan (2004), Widyaputra (2006), Harjeet and Jiayin (2013), also Kuncoro (2014), ROE of companies after merger or acquisition was found not changed significantly, even had decreased significantly. Meanwhile, Sisbintari (2011), Gunawan and Sukartha (2013), and Rani and Jain (2013) found that ROE had significant increase after merger or acquisition. Widyaputra (2006) found that there was difference of *price to book value* (PBV) significantly one year after merger or acquisition, but this study was in contrast with Yonathan and Ancella (2013) where *price to book value* had no significant increase after merger or acquisition.

Based on results of several studies above, the problem in this study was whether current ratio, debit equity ratio, total assets turnover, inventory turnover, operating profit margin, return on assets, return on equity, and price to book value after merger and acquisition were better than before merger and acquisition?
2. Literature Review

Merger is a combination of two or more companies to establish new company (Whitaker, 2012), while Djohanputro (2008) presumed merger as consolidation of two or more companies into one while using legal status of one of the company, while others was revoked.

Another consolidation form was acquisition. Through acquisition, acquiring company could make target company into their subsidiaries. In other word, either acquiring company or target company are still existed, therefore acquisition is a take over of parts or whole share of another company therefore acquiring company had controlling right over target company.

Merger and acquisition give various benefit to shareholder and company when consolidated company had more value than being independently (PillofdanSantomero, 1996). The best consequences of merger and acquisition is synergy of power between several consolidating company to optimize owned resources to create greater financial capability (Wheelenand Hunger, 2006). To reach the best financial capability, before merger or acquisition, involved companies should therefore be efficient first (Mardanugraha, 2005).

Financial Ratios

According to Keown, Martin, Petty, and Scott Jr. (2005), to evaluate company financial performance, either had corporative act or not, could use financial ratios as analysis tools. Emery, Finnerty, and Stowey (2011), classified financial ratios that could be used as company financial indicators, that are:

1) Liquidity Ratio

This ratio was meant to evaluate company liquidity level, which is company capability to fulfill their short term obligation. Ratio used was current ratio (CR), a ratio that showed company capability to fulfill short term obligation using current asset, with formula as below:

\[
CR = \left( \frac{\text{Current Assets}}{\text{Current Liabilities}} \right) \times 100\% 
\]

…………… (1)

2) Solvency Ratio / Leverage

Debt to equity ratio (DER), ratio used to evaluate debt to equity, with formula as below:

\[
\text{DER} = \left( \frac{\text{Total Debt}}{\text{Total Equity}} \right) \times 100\% 
\]

…………… (2)

3) Activity Ratio

This is used to measure effectiveness of resource usage to generate profit. Ratio used was total assets turnover and inventory turnover with formula as below:

\[
\text{TATO} = \left( \frac{\text{Net Sales}}{\text{Total Assets}} \right) \times 360 \text{ days} 
\]

…………… (3)

\[
\text{ITO} = \left( \frac{\text{Cost of Goods Sold}}{\text{Inventory}} \right) \times 360 \text{ days} 
\]

…………… (4)
4) **Profitability Ratio**

Ratio used to measure company capability in acquiring profit in relation with sales, with three formulas, as below:

\[ \text{OPM} = \left( \frac{\text{Earnings Before Interest and Tax}}{\text{Net Sales}} \right) \times 100\% \] ………… (5)

\[ \text{ROA} = \left( \frac{\text{Earning After Interest and Tax}}{\text{Total Assets}} \right) \times 100\% \] ………… (6)

\[ \text{ROE} = \left( \frac{\text{Earning After Interest and Tax}}{\text{Total Equity}} \right) \times 100\% \] ………… (7)

5) **Market Ratio**

According to Brigham and Ehrhardt (2013), ratio used to measure profit performance compared with company value performance was *price to book value* (PBV) with formula as below:

\[ \text{PBV} = \left( \frac{\text{Price per Share}}{\text{Book Value per Share}} \right) \times 100\% \] ………… (8)

Based on study problem above, therefore hypothesis of this study was there would be improvement in *current ratio, debt to equity ratio, inventory turnover, total assets turnover, operating profit margin, return on assets, return on equity, and price to book value* after company merger or acquisition.

### 3. Method

#### Study Design and Sample

This study was combination of explorative, descriptive, and explanatory study to get in depth information regarding of measurement of company financial performance before and after merger or acquisition and company value resulted after merger or acquisition. Population in this study was all public company having merger or get acquired listed in Indonesia Stock Exchange between 2003 and 2011, as much as 43 company. Sample was obtained using purposive sampling therefore there were 11 sample company, 10 of which were merged and 1 was acquired.

#### Type and Data Collection Technique

This study used quantitative data, secondary data, and time series sourced from Indonesia Stock Exchange and also collected using documentative technique.

#### Data Analysis Technique

This study calculated financial ratio of company 2 years before merger or acquisition, followed with calculating financial ratio 2 years after merger or acquisition, and mean of total ratio in each company for year \( T - 2 \) and \( T - 1 \) was compared with mean of year \( T + 1 \) and \( T + 2 \) to find out the best performance.

#### Normality Test and Hypothesis Testing

Normality test was meant to check whether data was distributed normally or not. To detect normality of the data, *Kolmogorov-Smirnov test* was used. For hypothesis testing, *paired sample t-test* was used.
4. Result and Discussion

Normality Test Result
This was normality test result of variables 2 (two) years before and after merger or acquisition.

Table 1: Normality Test Result before and after Merger/Acquisition

| No | Variable | P-Value | Conclusion |
|----|----------|---------|------------|
| 1  | CR       | 0.965   | Ho accepted |
|    | Before   | 0.874   | Ho accepted |
|    | After    | 0.961   | Ho accepted |
| 2  | DER      | 0.539   | Ho accepted |
|    | Before   | 0.961   | Ho accepted |
|    | After    | 0.643   | Ho accepted |
| 3  | TATO     | 0.932   | Ho accepted |
|    | Before   | 0.812   | Ho accepted |
|    | After    | 0.893   | Ho accepted |
| 4  | ITO      | 0.812   | Ho accepted |
|    | Before   | 0.893   | Ho accepted |
| 5  | OPM      | 0.643   | Ho accepted |
|    | Before   | 0.893   | Ho accepted |
| 6  | ROA      | 0.114   | Ho accepted |
|    | Before   | 0.062   | Ho accepted |
| 7  | ROE      | 0.203   | Ho accepted |
|    | Before   | 0.050   | Ho accepted |
| 8  | PBV      | 0.547   | Ho accepted |
|    | Before   | 0.440   | Ho accepted |

Source: Data was processed using SPSS 21

Result of normality test above showed that all variables had significance value above Kolmogorov-Smirnov significance value that was 0.05 which meant that all Ho was accepted. Therefore data was distributed normally, ratio number of two years before and after merger and acquisition was not too different one company to others. This indicated that ratio was not varied or there was no anomaly in ratio value.

T-Test
Below is the result of t-test which was meant to find any significant differences between mean score of two independent sample. Two sample meant were company financial ratios before and after merger or acquisition. T-test measurement was using significance level α = 5%. T-test result was as shown below:

Table 2: T-test result before and after Merger or Acquisition

| No | Variable | Mean | P-Value | Conclusion |
|----|----------|------|---------|------------|
| 1  | CR       | 1.7200 | 0.033   | Ho rejected* |
|    | Before   | 2.0600 |         |             |
|    | After    | 1.1820 |         |             |
| 2  | DER      | 1.4736 | 0.026   | Ho rejected* |
|    | Before   | 1.0973 |         |             |
|    | After    | 1.1590 |         |             |
| 3  | TATO     | 1.1182 | 0.010   | Ho rejected* |
|    | Before   | 1.3636 |         |             |
|    | After    | 1.0973 |         |             |
Table above showed that Ho of all performance parameter was rejected which meant there was significant increase on current ratio, debt to equity ratio, total assets turnover, inventory turnover, operating profit margin, return on assets, return on equity, and price to book value after company merger and acquisition with ROA and ROE had significant increase.

Discussion
Hypothesis 1
This study found that there was improvement in Current Ratio (CR), compared with before merger or acquisition. This was in line with studies by Kumara and Satyanarayana (2013) also Sharma (2013) where there was improvement in CR variable after merger or acquisition. Contrasting result were found in studies by Widyaputra (2006), Payamta and Setiawan (2004).

Hypothesis 2
On Debt to Equity Ratio (DER) variable, there was improvement after company merger or acquisition compared with before merger or acquisition. This was in line with studies by Kumara and Satyanarayana (2013) also Sharma (2013), where there was improvement in Debt to Equity Ratio variable after merger or acquisition, but was inconsistent with studies by Widyaputra (2006), Payamta and Setiawan (2004).

Hypothesis 3
This study found that there was improvement in Total Asset Turnover (TATO), compared with before merger or acquisition. This was in line with studies by Harjeet and Jiayin (2013), Sharma (2013) also Annisa and Prasetiono (2010). But this was inconsistent with studies by Widyaputra (2006) also Payamta and Setiawan (2004) where there was no significant improvement in TATO variable after merger or acquisition.

Hypothesis 4
This study found that there was improvement in Inventory Turnover (ITO), compared with before merger or acquisition. This was in line with studies by Harjeet and Jiayin (2013), Sharma (2013) also Annisa and Prasetiono (2010). But this was inconsistent with studies by Widyaputra (2006)
also Payamta and Setiawan (2004) where there was no significant improvement in ITO variable after merger or acquisition.

Hypothesis 5
This study found that there was improvement in Operating Profit Margin (OPM), compared with before merger or acquisition. This was in line with studies by Kumara and Satyanarayana (2013). But this was inconsistent with studies by Payamta and Setiawan (2004) also Widyaputra (2006); Annisa and Prasetiono (2010); Sharma (2013); Kadek, Gunawan and Sukharta (2013), where there was no significant improvement in OPM variable after merger or acquisition.

Hypothesis 6
This study found that there was improvement in Return On Asset (ROA), compared with before merger or acquisition. This was in line with studies by Kumara and Satyanarayana (2013). But this was inconsistent with studies by Payamta and Setiawan (2004) also Widyaputra (2006); Annisa and Prasetiono (2010); Sharma (2013); Gunawan and Sukharta (2013) where there was no significant improvement in ROA variable after merger or acquisition.

Hypothesis 7
This study found that there was improvement in Return on Equity (ROE), compared with before merger or acquisition. This was in line with studies by Kumara and Satyanarayana (2013); Gunawan dan Sukharta (2013). But this was inconsistent with studies by Payamta and Setiawan (2004) also Widyaputra (2006); Annisa and Prasetiono (2010); Sharma (2013), where there was no significant improvement in ROE variable after merger or acquisition.

Hypothesis 8
This study found that there was improvement in Price Book Value (PBV), compared with before merger or acquisition. This was in line with studies by Kadek, Gunawan and Sukharta (2013). But this was inconsistent with studies by Widyaputra (2006).

5. Conclusion
Merger and acquisition done by eleven manufacturing industry issuer in Indonesia Stock Exchange gave better results in financial performance and company value, where values of CR, DER, TATO, ITO, OPM, ROA, ROE and PBV improved after company merger and acquisition. Of eight measuring tools, ROA and ROE had very significant improvement. Merger and acquisition done by manufacturing industry in Indonesia could give added value in form of financial performance, efficiency, and company value which was better than consolidated company.

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