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A STUDY ON IMPACT OF MANAGERIAL ABILITY ON MERGER AND ACQUISITION PERFORMANCE

[*1]**Imelda Kartika Surasman**,[2]**Fesya Devina Putri Ganlin**,[3]**Nanik Linawati**

[1,2,3] Program Finance and Investment, School of Business and Management, Universitas Kristen Petra, Surabaya, Indonesia

Author's email:
[1]d11210263@john.petra.ac.id; [2]d11210060@john.petra.ac.id; [3] nanikl@petra.ac.id

**Corresponding author: [1]d11210263@john.petra.ac.id*

Abstract. *The purpose of this study is to explore the correlation between managerial ability and the performance of mergers and acquisitions (M&A). The research examines the impact of managerial ability on both short-term and long-term performance of the acquiring firm. The period of study is from 2016 to 2021, using two metrics which are Market-to-Book Ratio (MTBR) to assess operating performance and Buy-and-Hold Abnormal return (BHAR) to quantify stock return performance. By analyzing data from a sample of M&A cases conducted by public companies registered within KPPU in Indonesia, this study aims to establish whether a positive correlation exists between managerial ability and M&A success. The research concludes that successful M&As depend on effective decision-making by managers, who play a critical role in navigating the complexities of integration and value creation. The findings can contribute to the understanding of factors that influence M&A outcomes and potentially improve investment decisions by emphasizing the importance of managerial competence in such endeavors.*

Keywords: business; managerial; merger and acquisition
For examples: *Accounting; Business; Creative Industry; Digital Marketing; Economic Growth*

1. INTRODUCTION

In today's dynamic business environment, mergers and acquisitions (M&As) serve as crucial growth strategies for firms. While companies can grow internally or through external takeovers, acquisitions often offer faster expansion and immediate cash flows. The neoclassical model for takeovers highlights M&As as mechanisms to reallocate assets to more efficient uses (Mitchell and Mulherin, 1996; Maksimovic and Phillips, 2001 & 2002; Harford, 2005). Acquisitions help manage firm resources and build valuable assets (Capron and Mitchell, 1998; Capron and Pistre, 2002; Carow et al., 2004). Benefits of acquisitions include lower entry costs, bypassing entry barriers, and quicker access to resources compared to internal development (Roberts and Berry, 1984; Singh and Montgomery, 1987; Capron, 1999; Lambe and Spekman, 1997; King et al., 2003). Consequently, M&As are effective tools for resource appropriation and growth (Hitt et al., 2002). However, empirical research has often failed to find consistent evidence of increased wealth for acquiring firms post-acquisition (Tuch and O'Sullivan, 2007; Agrawal and Jaffe, 2000). This could be due to complex integration processes, inadequate target evaluation, significant debt, or flawed integration strategies (Hitt et al., 2007; Vasilaki and O'Regan, 2008).

Mergers and acquisitions are seen by many companies as strategic investments to enhance competitive advantage (Tuch & O'Sullivan, 2007). Motivations include improving corporate image, expanding assets, and increasing shareholder wealth (Aprilita et al., 2011). Redistribution theory supports these motivations, suggesting benefits like tax savings, increased efficiency, revenue stability through cross-industry mergers, and enhanced director prestige (Ahern & Weston, 2007). Top management's ability, a key source of value creation in the resource-based view of the firm, is critical in explaining differences in organizational decisions and outcomes (Holcomb et al., 2009). Managerial ability, comprising the knowledge, skills, and experience of managers, significantly influences the success of M&As by managing change processes and maximizing synergistic benefits. Effective managers combine resources efficiently and make strategic decisions that enhance firm value. This study examines if firms with higher managerial ability are more likely to engage in M&As and prefer targets in specific industries.

The responsibility for key decisions, including investments and strategic directions, lies with top management (Cui & Leung, 2020). In M&As, managerial ability is crucial for revenue growth, value creation, and overall performance in both short and long terms. Managerial ability, assessed through efficiency in profit generation, reflects top management's knowledge, skills, and experience (Ng & Daromes, 2016). Neoclassical theory posits that business combinations can be more productive than solitary operations, with synergies from M&As enhancing profitability. However, without proper motivation or if driven by personal interests, M&As can lead to losses (Ahern & Weston, 2007). The increase in M&As from 2019 to 2020 shows confidence among business actors in this growth strategy. Successful M&As, such as the formation of Bank Mandiri, inspire further M&A activities. However, empirical studies reveal mixed outcomes, with some firms failing to enhance performance post-M&A, particularly during high uncertainty periods like the COVID-19 pandemic. For instance, PT Japfa Comfeed Indonesia saw declines in financial performance after acquiring So Good (Julian, 2020). Similarly, research on Pakistani banks and Indonesian cement industry M&As indicates negative effects on firm value (Borodin et al., 2020; Wibowo and Hamdani, 2020; Subiyanto, 2020).

Managerial ability is often measured indirectly through CEO characteristics, which may not fully capture management effectiveness (Chikh and Filbien, 2011; Walters et al., 2007; Bertrand and Schoar, 2003). Recent approaches, like the "data envelopment analysis" (DEA), offer more accurate measures of managerial efficiency (Demerjian et al., 2012). This study adopts Demerjian et al.'s approach to empirically test the impact of managerial ability on M&A growth strategies. Research indicates that M&As do not always lead to improved earnings and value. The CEO and top management significantly influence business outcomes, with managerial ability being crucial for resource management and competitiveness (Salehi & Moghadam, 2019; Bertrand and Schoar, 2003; Chang et al., 2010). High-ability managers can enhance company performance by efficiently utilizing resources and identifying growth opportunities (Cheung et al., 2017). Studies on managerial skills' impact on firm performance highlight the importance of competent managers in predicting and managing business environments (Chang et al., 2010; Cheung et al., 2017; Demerjian et al., 2012). Managers with superior skills can effectively control resources, foresee industry trends, and make strategic investments (Kallamu and Saat, 2015; Huang et al., 2014). However, no studies have explored the relationship between managerial ability and M&A performance in Indonesia.

This research fills the gap by investigating the long-term performance of M&As in relation to managerial ability in Indonesia. Unlike previous studies focusing on pre- and post-M&A performance comparisons, this study emphasizes managerial ability's influence over short- and long-term periods. Aligning with resource-based theory, effective resource utilization by managers is essential for sustained competitive advantage (Barney, 1991, 1996). Empirical evidence on post-acquisition performance remains inconsistent, highlighting the need for insights into managerial ability's role in M&As (Cui and Chi-Moon Leung, 2020). This research contributes to the literature and M&A practices in Indonesia by providing new evidence on M&A impacts on firm performance. M&A strategies are particularly relevant during economic challenges, like the pandemic, and have long-term effects on company value. Sustainable businesses attract both institutional and private investors (Prengel, 2021). Analyzing M&A actions and performance from 2016 to 2021, the study shows that M&As affect operating performance (MTBR) in both short- and long-term periods and stock returns (BHAR) in the long term. These findings suggest that investors should consider the managerial ability of acquiring firms in M&A transactions to ensure investment sustainability.

2. LITERATURE REVIEW

Mergers and Acquisitions (M&A) are significant strategic decisions for firms, yet most result in discouraging performance. This paper investigates the role of managerial capabilities in influencing M&A outcomes. We examine three theoretical perspectives to explain this relationship: Resource-Based View (RBV), Neoclassical Theory, and Redistribution Theory.

The Resource-Based View (RBV) states that a firm's competitive advantage comes from quality and superior resources. In the context of M&A, managerial capability can be considered a meaningful resource. Skilled managers have the expertise to identify target firms with complementary resources, integrate them optimally, and capitalize on synergies to create a more competitive firm. Studies by [Author, Year] support this idea, showing that acquirers with higher managerial capabilities achieve superior post-merger performance. RBV suggests that successful M&As depend on managers' ability to properly utilize combined resources and develop new capabilities, ultimately improving firm performance.

Neoclassical theory, focussed on economic rationality and market efficiency, states that M&A activity should not create value for shareholders in the long run. However, managerial skills can influence M&A outcomes by reducing market inefficiencies. Skilled managers can identify undervalued target firms or the one that have excellent integration capabilities, allowing them to capture value through M&A despite market imbalances. The study by [Author, Year] highlights this aspect, finding that acquirers with strong negotiation skills and financial acumen achieve positive abnormal returns after M&A. Neoclassical theory states that managerial ability allows firms to overcome market inefficiencies and gain potential profits from M&A activities.

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Redistribution theory states that M&A can be a tool for managers to enrich themselves for the expense of shareholders. Managers may undertake M&As to expand their business network, even if the deal is not strategically healthy. However, managerial capability can also be a risk-reducing factor. Competent managers understand the importance of shareholder value and are more likely to pursue M&As that create real synergies and improve long-term performance. In contrast, the study by (Masulis et al., 2007) shows that firms with weak corporate governance and managerial oversight are more likely to engage in value-destroying M&As. Redistribution theory suggests that managerial capabilities can prevent self-serving M&A activities and ensure that deals are pursued for strategic advantage.

2.1 Market to Book Ratio (MTBR)

The market-to-book ratio (P/B ratio) is a financial metric used to assess a target firm's relative value in M&A deals, particularly relevant within the Resource-Based View (RBV) framework. P/B ratio compares the company's market capitalization, reflecting intangible assets and growth potential, to its book value, representing tangible assets. A high P/B suggests valuable intangible assets that complement the acquirer's resources, while a low P/B might indicate undervalued tangible assets.

2.2 Stock Returns or Buy-Hold Abnormal Return (BHAR)

Buy-and-hold-abnormal-return (BHAR) is considered the most common method for analyzing long-term market performance. It has been calculated by using both the market index and the matching firm approach. There are several important components to measuring long-term abnormal stock price performance, including an estimator of abnormal performance and a means for determining the distribution of the estimator. Beginning with Ritter (1991), the most popular estimator of long term abnormal performance is the mean buy-and-hold abnormal return, BHAR. Buy And-hold abnormal returns measure the average multi-year return from a strategy of investing in all firms that complete an event and selling at the end of a pre-specified holding period, versus a comparable strategy using otherwise similar non-event firms. Barber and Lyon (1997) and Lyon, Barber, Tsai (1999) argue that BHARs are important because they "precisely measure investor experience."

Buy-and-Hold Abnormal Return (BHAR) serves as a long-term performance metric employed to evaluate the post-merger stock price movement of the acquiring firm. It measures the extra return earned by a share compared with the return earned by the market as a whole over the same period. A positive BHAR suggests the acquiring firm's management made a strategic decision that benefited shareholders by exceeding the market average return. Conversely, a negative BHAR indicates underperformance, potentially raising questions about the deal's rationale and managerial capabilities (Moeller et al., 2004). Market events unrelated to the M&A can influence BHAR, requiring careful consideration of the chosen timeframe and potential confounding factors. Additionally, BHAR doesn't capture the synergies or strategic benefits that might not be immediately reflected in the stock price but could materialize in the long term (King & MacKinlay, 2003).

2.3 Managerial Ability

It is the ability to coordinate, control and operationalise an organization's activities to achieve company goals. According to (Hitt & Montgomery, 2001) managerial ability is the ability of the company to formulate and implement effective strategies that create a competitive advantage for the organization. It becomes a crucial factor in determining an organization's success.This involves a wide range of competencies, including strategic planning, where leaders define goals, set targets for achievement, and make adjustments to market developments. Organizational skills involve planning the company efficiently, delegating tasks appropriately, and ensuring efficient workflows. Excellent decision-making requires analyzing information, identifying opportunities and risks, and making choices that drive the company forward (SOURCE). In addition, strong management and leadership competencies can inspire employees, create a positive work environment, and foster co-operative teams. Effective communication enables leaders to better connect with staff, clients, and other stakeholders, build trust, and address differences of opinion constructively (SOURCE).

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Financial management involves transparent stewardship of financial resources, efficient allocation, and ensuring profitability. Finally, business development requires finding new growth opportunities, expanding markets, and increasing revenue. In essence, strong managerial skills serve as the foundation for organizational success. Leaders who possess these capabilities can drive organizations to achieve goals, increase profitability and build sustainable businesses.

2.4 Company Performance

In the realm of business analysis, company performance serves as an important metric to measure the overall health and progress of an organization. This comprehensive assessment examines several important aspects that influence a company's success. First, financial aspects examine the financial health of the company, examining metrics such as profitability, debt levels, and overall financial stability. Second, operational effectiveness, evaluates the efficiency with which the company conducts its business activities. This includes a thorough examination of productivity levels, asset utilization, and supply chain management effectiveness. Lastly, the strategic aspect assesses the extent to which the company has achieved the vision or goals that have been laid out in the strategic plan that has been set in the very beginning. By carefully analyzing this comprehensive range of factors, companies gain a thorough understanding of their state of performance. This then empowers them to formulate and implement strategic measures designed to propel them towards greater success in the years to come.

2.5 The relationship between managerial ability and market-to-book ratio (MTBR)

Resource-based theory is associated with managerial aptitude (Barney, 1996). This theory posits that the management skills of a company are rationally dependent on its ability to maximize revenue. Typically, companies that are capable of competing will have a diverse array of resources that can be employed to establish a long-term advantage over their competitors. Resources from corporate strategy can be employed to establish a sustainable competitive advantage. Managers must understand the relationship between resources, competitive advantage, and prospective revenue earnings prior to utilizing the resource. Competent managers are believed to possess managerial abilities that enable them to develop strategies that optimize the utilization of company resources to generate sustainable competitiveness. Consequently, competent administrators are capable of effectively managing input to generate optimal output. Furthermore, they possess the capacity to anticipate future business conditions, thereby guaranteeing that the organization maintains optimal performance in the future.

A high Market-to-Book Ratio (MTBR) signals market optimism towards the future of the company, reflecting strong management that achieves high operational efficiency and generates substantial returns on invested capital. However, this positive relationship may lead to overvaluation, where the value of the company exceeds its intrinsic value due to excessive market expectations. Conversely, a low MTBR indicates market skepticism of the firm's value, potentially leading to undervaluation. This can happen for several reasons. Even if management succeeds in reducing costs and increasing profits, the market may still be unsure of the company's future. There may also be a lack of confidence in the company, even with good management performance. Lastly, the value of the company may be undervalued if management is not utilizing its investment funds effectively.

H1: The acquiring company's managerial ability positively affects the market-to-book ratio (MTBR).

The first hypotheses are tested both without and with the control variables.

2.6 The relationship between managerial ability and buy–hold abnormal return (BHAR)

A company's management performance plays a significant role in determining its Book-to-Asset Ratio (BHAR). Effective management can increase the company's profitability through various strategies, such as developing attractive products, improving operational efficiency, and making the right decisions. This will positively impact the company's share value, resulting in a positive BHAR. In addition, effective management is also able to build investor trust through clear and transparent communication. Transparency in the use of investment funds will attract new investors, boost the share price, and result in a positive BHAR. Conversely, ineffective management can be fatal for BHAR. A decline in profitability due to poor decisions, ineffective strategy execution, and other factors, will trigger a decline in share price and result in a negative BHAR. The inability to manage risks, due to non-optimal management of funding sources and the revelation of internal problems, further worsens investors' perceptions and triggers their hesitance to invest.

H2: The acquiring company's managerial ability positively affects buy-and-hold abnormal return (BHAR).

The second hypothesis is tested both without and with the control variables.

3. RESEARCH METHODS

This study employs a quantitative methodology. The sampling method used is convenience sampling, which is a type of non-probability sampling approach. According to Andrade (2021) convenience sampling refers to the practice of selecting samples from readily available and reachable sources. This strategy was selected due to the limited number of publicly listed acquiring firms in Indonesia and the unavailability of financial disclosures for certain enterprises. Hence, the researcher employed publicly traded acquiring firms with accessible data for the year preceding and the year after the merger and acquisition occurrences. The data in this study are derived from secondary sources, particularly the Center for Data Lab Revinitif at Petra Christian University. The data covers a period of one year prior to and one year following the mergers and acquisitions of the organizations under investigation.

Furthermore, the data collection procedure begins with searching for companies that carried out mergers and acquisitions from 2016-2021 listed on the Indonesia Stock Exchange (IDX). Collecting data is done by using the LSEG Data & Analytics website (Revinitive Indonesia), then downloading the data to get the required dataset.

The M&A transactions data associated with the examined cases were gathered from the published reports (2016–2021) by KPPU, which aligns with the Indonesian government's requirement for transparency and fair play in M&A. In the event that the merger is legally effective and satisfies the requirements, business actors are required to submit a notification to the commission. The study population comprises all public acquiring companies that are on the Business Competition Supervisory Commission (KPPU) list for 2016–2021, conducting mergers and acquisitions. By accessing data from the LSEG Data & Analytics, we acquired financial data and markets.

3.1 Variable Measurements

3.1.1 Independent Variable

The independent variable in this study is managerial ability, measured according to the method proposed by Demerjian et al. (2012). This involves using data from financial statements to calculate the managerial ability score (MA score) through data envelopment analysis (DEA). The primary output used in this calculation is sales, reflecting the value of the company's products. The inputs considered are the cost of goods sold (COGS), selling and administrative expenses (SG&A), net property, plant, and equipment (PPE), operating leases, research and development (R&D) expenditures, and goodwill.

3.1.2 Dependent Variables

The dependent variables are the market-to-book ratio (MTBR) and the buy-and-hold abnormal return (BHAR), which serve as indicators of company performance over short- and long-term periods, respectively. MTBR, following Gitman (2009:169), measures operating performance by comparing the company's net assets to the market value of its outstanding shares, helping to assess whether a stock is overvalued or undervalued. BHAR, which represents stock return performance, is derived from the methodologies of Doeswijk et al. (2006) and Abid and Muharam (2015). Since M&A decisions are strategic, stock returns are a common metric used in financial and strategic management studies to evaluate their performance.

3.1.3 Control Variables

In line with the study by Cui and Chi-Moon Leung (2020), several control variables include company size, leverage, and market-to-book ratio. Definitions and measurements of these variables are detailed in Table 1.

3.2 Research Design

The research adopts an explanatory correlation model based on deterministic philosophy, which focuses on uncovering cause-and-effect relationships objectively (Bhattacherjee, 2012; Meressa, 2022). This study employs panel data regression analysis, combining time series data and cross-sectional data. This approach is chosen because it allows for analyzing data over multiple time periods and across various subjects, providing a comprehensive view of the relationships under investigation. The panel data regression equation to analyze this research is:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + ei\mathrm{t}$$

Description:
- $Y_{it:}$ MTBR and BHAR
- β0: Constants
- β1, 2, 3, 4: Regression Coefficients
- X1: Managerial Ability
- X2: Size of the company
- X3: Leverage
- X4: Market to Book Value
- i: Merger and Acquisition of Public Companies
- t: Year 2016-2021
- ε: Error

In this study, data analysis is carried out using regression methods. Regression analysis is a statistical tool used to understand the relationship between independent and dependent variables. Here, we specifically focus on panel data regression, which leverages data collected over time and across different entities. Stages in data analysis:

1. Data Collection: Data is gathered from the website LSEG Data & Analytics, focusing on the component of variables identified in the study, such as managerial ability (MA), market-to-book ratio (MTBR), and buy-and-hold abnormal return (BHAR).
2. Outlier Identification: Any inconsistencies or missing values on the collected data is cleaned to ensure that the data is accurate and reliable for analysis.
3. Descriptive Statistics: Initial analysis involves calculating descriptive statistics to summarize the basic features of the data. This includes measures such as mean, median, standard deviation, and range.

4. Hypothesis Testing: The regression results are analyzed to test the hypotheses. Statistical tests, such as t-tests and F-tests, are used to determine the significance of the coefficients and the overall model fit.
5. Interpretation of Results: The results are interpreted to understand the implications of the findings. This involves discussing whether the independent variables significantly influence the dependent variables and the strength of these relationships.

Table 1. Research variables and measurement

	Variables	Definition	Measurement
Independent Variable	Managerial Ability (MA)	The value of managerial measures. The managerial ability can be seen in their efficiency of operational performance	$MA = \frac{Sales}{COGS + SG\&A + PPE + Ops\ Lease + R\&D +}$ Efficiency using DEA (Demerjian et al., 2012)
Dependent Variables	MTBR	The market-to-book ratio of the acquiring firm after i-years of acquisition is adjusted for the industry median value of (i=1,2,3 years)	$MTBRi = \frac{Marketcapitalization}{Netbookvalue}$ (Gitman, 2009:169)
	BHAR	By subtracting the normal buy-and-hold return from the realized buy-and-hold return, the investor calculates abnormal returns by holding onto stocks for an extended period of time (i=year of M&A; t=1,2,3 years)	$BHARit = \frac{Pit - Pi0 + D1}{Pi0} - \frac{It - i0}{i0}$ Pit: share price of a company i 1 year after M&A Pi0: share price of a company i at M&A D1: Cumulative dividend of stock i 1 year after M&A It: IHSG 1 year after M&A i0: IHSG at M&A (Fakhri, 2019)
Control Variables	SIZE	The company's acquired market value at the end of the fiscal year prior to the takeover announcement, expressed as a logarithmic value	$Size = Ln\ Total\ Assets$ (Cui & Chi-Moon Leung, 2020)
	LEV	At the end of the fiscal year, prior to the acquirer's announcement of its takeover, the total assets' book value included both short-term and long-term company debt	$Debt\ to\ Asset\ Ratio = \frac{Total\ liabilities}{Total\ asset} \times 100\%$ (Cui & Chi-Moon Leung, 2020)
	MB	The acquisition of the market value of the common stock to the book value of equity at the end of	$MB = \frac{Marketvalue}{Bookvalue}$

		the fiscal year prior to the announcement of the takeover is used to calculate the market book ratio	(Cui & Chi-Moon Leung, 2020)

4. RESULTS AND DISCUSSION

1. How to do research.
2. How to test hypotheses.
3. Explain the relevance of theory to the research problems.
4. It is recommended that the sections of this chapter are separated into several sub-chapters, each of which has different problems.
5. The main goal is that readers easily understand it. Likewise, the explanation of each material or object is done using paragraphs.
6. In addition, if necessary, images, schemes or matrices may be included as supporting research explanations.
7. Address the research questions and objectives, explain whether/ how the results of the analysis answer the problem statement.
8. Discuss the relationship of the results of the analysis with previous studies or/and the relationship between the results of the analysis with the theories used in the study.
9. Present arguments that you can convey based on the results of the analysis/ findings and discussion.
10. Explain the implications of the results of the analysis/ findings on existing theory and/ or practice.
11. Explain the importance of the results of the analysis/research findings, how the results of the analysis/ findings contribute to the relevant research area.

4.1 Descriptive Statistics

Table 2. Descriptive Statistics Results

	N	Minimum	Maximum	Mean	Std Dev
MTBR (Y1)	46	-19,04742395	10,52761522	2,224690181	4,214689093
BHAR (Y2)	46	-1100,29365	2,143042855	-167,2078792	394,9884902
MA (X1)	46	0,183952255	42,48358562	1,635120143	6,097453129
SIZE (X2)	46	13,98845394	20,98324132	17,13385781	1,672473753
LEV (X3)	46	0,145675875	0,873614173	0,533096064	0,174457861
MB (X4)	46	0,000194515	8,408049093	2,479067924	2,28045743

Table 3. Paired Sample t-test

		t	Sig. (2-tailed)	Hypothesis
MTBR	Managerial Ability	-0.23	0.817	Dissignificant
	Size	-0.59	0.558	Dissignificant
	Leverage	-0.82	0.417	Dissignificant

	Market to book ratio	3.81	0.000	Significant
BHAR	Managerial Ability	0.40	0.693	Dissignificant
	Size	0.62	0.539	Dissignificant
	Leverage	0.15	0.878	Dissignificant
	Market to book ratio	0.12	0.907	Dissignificant

- If the Sig. value<0.05, then the independent variable (X) has a significant effect on the dependent variable (Y)
- If the Sig. value>0.05, then the independent variable (X) has no significant effect on the dependent variable (Y).

A statistically significant result (t=0) for the market-to-book ratio (P/B ratio) at the time of the M&A (t=0) compared to the P/B ratio one year later (t+1) implies a potential correlation between the target firm's pre-merger valuation and the short-term performance of the M&A. This could be due to the acquirer's selection of target firms which may indicate a high level of managerial proficiency. The presence of valuable intangible assets or robust future growth prospects may be suggested by firms with a high P/B ratio (t=0). Skilled managers who are in alignment with the RBV perspective may prioritize the acquisition of such targets in order to improve their own resource base and potentially achieve improved post-merger performance.

Additionally, the market's initial response to the M&A announcement may be indicated by a substantial disparity in the P/B ratio. The market's optimistic anticipation of the deal's potential to unlock value may be indicated by a high P/B ratio at t=0. Nevertheless, the P/B ratio at t+1 may suggest a more measured market evaluation following the initial euphoria. This could be the result of unforeseeable circumstances or integration challenges.

Other than that, the P/B ratio may be affected by accounting adjustments that are frequently implemented during mergers and acquisitions. Due to amortization or impairment charges associated with these intangible assets, firms that acquire firms with high intangible assets (as evidenced by a high P/B ratio at (t=0) may experience a decrease in the P/B ratio at t+1.

4.2 The relationship between managerial ability and market-to-book ratio (MTBR)

4.3 The relationship between managerial ability and buy–hold abnormal return (BHAR)

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. reg BHARY2 MAX1 SIZEX2 LEVX3 MBX4

      Source |       SS           df       MS      Number of obs   =        46
-------------+----------------------------------   F(4, 41)        =      0.16
       Model |  112250.623         4  28062.6557   Prob > F        =    0.9559
    Residual |  7064481.12        41  172304.417   R-squared       =    0.0156
-------------+----------------------------------   Adj R-squared   =   -0.0804
       Total |  7176731.74        45  159482.928   Root MSE        =     415.1

------------------------------------------------------------------------------
      BHARY2 | Coefficient  Std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
        MAX1 |   4.334624   10.90815     0.40   0.693    -17.69483    26.36408
      SIZEX2 |   24.81943   40.02398     0.62   0.539    -56.01063    105.6495
       LEVX3 |   61.80694    400.452     0.15   0.878    -746.9222    870.5361
        MBX4 |   3.398776   28.79835     0.12   0.907    -54.76067    61.55822
       _cons |   -640.923   685.1901    -0.94   0.355    -2024.692    742.8465
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. reg MTBRY1 MAX1 SIZEX2 LEVX3 MBX4

      Source |       SS           df       MS      Number of obs   =        46
-------------+----------------------------------   F(4, 41)        =      5.40
       Model |  281.943815         4  70.4859537   Prob > F        =    0.0014
    Residual |  535.181976        41  13.0532189   R-squared       =    0.3450
-------------+----------------------------------   Adj R-squared   =    0.2811
       Total |  817.125791        45  18.1583509   Root MSE        =    3.6129

------------------------------------------------------------------------------
      MTBRY1 | Coefficient  Std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
        MAX1 |  -.0220953   .0949427    -0.23   0.817     -.213836    .1696453
      SIZEX2 |  -.2057889   .3483621    -0.59   0.558    -.9093204    .4977426
       LEVX3 |  -2.856089   3.485467    -0.82   0.417    -9.895133    4.182955
        MBX4 |   .9546359    .250656     3.81   0.000     .4484258    1.460846
       _cons |   4.942739   5.963781     0.83   0.412    -7.101361    16.98684
------------------------------------------------------------------------------
```

```
. reg MTBRY1 MAX1

      Source |       SS           df       MS      Number of obs   =        46
-------------+----------------------------------   F(1, 44)        =      0.20
       Model |  3.74765128         1  3.74765128   Prob > F        =    0.6547
    Residual |  813.378139        44  18.4858668   R-squared       =    0.0046
-------------+----------------------------------   Adj R-squared   =   -0.0180
       Total |  817.125791        45  18.1583509   Root MSE        =    4.2995

------------------------------------------------------------------------------
      MTBRY1 | Coefficient  Std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
        MAX1 |  -.0468115   .1039663    -0.45   0.655    -.2563417    .1627188
       _cons |   2.301233   .6563275     3.51   0.001     .9784914    3.623974
------------------------------------------------------------------------------
```

WITHOUT CONTROL VAR

CONCLUSION

1. It should be emphasized that the conclusion is not a summary of the entire contents of the article.
2. The conclusion is the result of research that describes the opinion of the researcher.
3. Generally writing conclusions is written in one paragraph, not using serial numbers or quotations.
4. However, each journal has its own rules, so an author must comply with these guidelines.

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