How the strategic to achieve corporate sustainable performance?
The role of mergers, acquisitions and ownership integrations

Kesi Widjajanti, Rohmini Indah Lestari, Eviatiwi Kusumaningtyas Sugiyanto

Received: 11 July 2023 | Accepted: 16 September 2023 | Published: 26 September 2023

1. Introduction
2. Literature review
   2.1. Sustainability theory
   2.2. Agency theory
   2.3. Corporate governance theory
   2.4. Variables and indicators
3. Hypothesis development
4. Method
   4.1. Approach
5. Results and Discussion
   5.1. Demographic distribution
   5.2. Latent variable coefficients
   5.3. Findings and discussion
   5.4. Mediation analysis
   5.5. Moderated Mediation
6. Conclusions

www.ojs.unito.it/index.php/visions
Keywords: corporate action; corporate sustainable performance; merger & acquisition; ownership

Abstract. Examine the role of Ownership Interaction on the effect of Merger & Acquisition on the company's sustainable performance. In addition, it also investigates the effect of the interaction between Merger & Acquisition and ownership integration on the company's sustainable performance. This study uses a moderated mediation model to explore the role of Merger & Acquisition on the company's sustainable performance mediated by integration ownership. Merger & Acquisition acts as an independent and moderator variable between the effect of ownership integration on the company's sustainable performance. Data was collected from 51 companies in Indonesia that carried out Merger & Acquisition corporate actions for seven years from 2015-2021. We find that the direct effect of Merger & Acquisition on integration ownership is a U-curve. Integration ownership acts as a partial mediator on the relationship between the effect of Merger & Acquisition on the company's sustainable performance. We find evidence that Merger & Acquisition plays a moderate role by amplifying the effect of ownership integration on the company's sustainable performance. This paper contributes to enriching the literature on good corporate governance oversight mechanisms related to management entrenchment. We find that the integration of ownership of a company directly participates in the Merger & Acquisition corporate action relationship which has an impact on the company’s sustainable performance. The role of ownership integration on the company's sustainable performance is in line with the concept of agency theory alignment in the specific context of companies in Indonesia. We apply a moderated mediation model because we suspect that there is an interaction between Merger & Acquisition and ownership integration in different pathways from mediator to observable dependent variable.
1. Introduction

Sustainable development is currently a concern in the world. Efforts to create sustainable development must involve several related aspects and stakeholders. The issue of sustainable development that continues to develop changes the company's orientation to take part in realizing sustainable development.

The concept of a sustainable enterprise is currently receiving great attention, especially the emphasis on the business and theoretical side around the world (Caiazza et al., 2021) and in developing countries such as Indonesia (Tjahjadi et al., 2021). A sustainable enterprise is a dynamic business strategy that implements sustainable practices necessary to meet shareholder goals and energize stakeholders (Aksoy et al., 2020). Various frameworks have been proposed to determine the level of sustainable corporate performance (CSP) which is an important issue for company development (Nikolaou et al., 2019; Pislaru et al., 2019). Companies are encouraged to develop ways of managing their business to be more sustainable. Several approaches to sustainable enterprises have emerged to help companies face this challenge (Morioka & Carvalho, 2016). This study will consider a framework that evaluates the contribution of corporate corporate actions to sustainable development expressed in financial terms proposed by Dočekalová & Kocmanová, (2016) using indicators of economic dimensions (Pislaru et al., 2019).

Mergers and acquisitions (M&A) are a very popular investment strategy among companies looking to increase company growth. There is a relationship between the managerial ability of the acquiring firms and their long-term performance after M&A (Cui & Chi-Moon Leung, 2020). M&A is still one of the strategic options that companies can do as part of sustainable integration efforts (Geraldi et al., 2022). Mergers and acquisitions are one of the strategic options that organizations can do in business competition which is located in the corporate level strategy. M&A is carried out with the main objective of creating corporate value and increasing shareholder value (Teti & Tului, 2020). In order to get the best final result from M&A one must consider that the value for shareholders is both in terms of financial performance (Dočekalová & Kocmanová, 2016) and sustainable company performance (Barros et al., 2022).

Financial performance is used in several studies to assess the economic impact of M&A using accounting measures. Current assets as a measure of the liquidity ratio are considered a more suitable measure to be used in the context of acquisitions because large changes in assets or equity values often occur after the event of the company (Malikov et al., 2021). Leverage as a measure of solvency
(debt asset ratio and debt equity ratio) after the company has affected the company's sustainable performance (Gainet, 2010). Measures of profitability (return on assets and net profit margin) (Krishnan et al., 2007). Profitability index that will be available to meet the needs of future stakeholders and not just shareholders (Nikolaou et al., 2019).

Impact of M&A activities, on key agency issues, and on ownership and control structures. M&A not only reduces conflicts of interest related to the transfer of control, but also has a more general impact on agency problems between management and shareholders, minority and majority investors, and other stakeholders (Gregoriou & Renneboog, 2007). In the study, we confirmed that the acquirer was not involved in management prior to the M&A. On the other hand, primary ownership reduces the total real earnings management (Piosik & Genge, 2020).

Boards of directors in various companies, show that board networks have a significant impact on corporate decisions, including organizational structure and M&A strategic alliances (Tao et al., 2019). The results of previous studies state that M&A has an impact on increasing firm value (Hazelkorn et al., 2004; Wonder & Lending, 2019), increasing profits (Manuela et al., 2016), reducing costs (Barros et al., 2022). Another study explains that firm solvency has no impact on firm performance after M&A (Zhang et al., 2018). The profit level did not change significantly after M&A (Trujillo et al., 2020), there was a decrease in operating performance (Malikov et al., 2021). Stakeholder theory postulates that firms with high ownership influence post-deal M&A will have a positive effect on total deal synergies and long-term performance and create value for the firm's shareholders (Brooks et al., 2018; Caiazza et al., 2021). M&A agreements have a positive impact on ESG scores, but have no impact on increasing ESG scores in the year the agreement was agreed (Barros et al., 2022). the best outcome of the M&A will be achieved when considering the increase in shareholder value in terms of both financial performance and sustainability in the post-merger period (Caiazza et al., 2021). Very little literature analyzes the impact of M&A agreements on company sustainability in terms of company performance (Gillan et al., 2021). The literature evaluating the impact of women on board quotas as corporate regulators has not yet reached an established consensus on its effect on firm performance (Carbonero et al., 2021). Despite the overwhelming evidence on the ultimate shareholder camp, the literature is very silent on whether and how improvements in corporate internal governance will affect ultimate shareholder entrenchment (Cai et al., 2019).
With the development of industrial expansion, the use of natural and green resources by industry is increasing rapidly (Abbas and Sagsan, 2019). This situation primarily reduces the supply of natural resources, thereby causing environmental damage. Increasing demand has exacerbated this problem (Shahzad et al., 2020). Environmentalists and naturalists praise these organizations for bringing cutting-edge knowledge and environmentally responsible thinking to their production processes to generate profits and increase sustainability in business (Sarkis et al., 2011). Similarly, in recent environmental management literature, these concerns have been addressed by SD. Although this question is currently a difficult one, researchers and analysts still do not agree on its concept and meaning (Hahn et al., 2015). The definition of SD is applied globally according to the “World Commission on Environment and Development” (WCED, 1987): “Development that meets the needs of the present without compromising the ability to meet the needs of future generations.” In this definition, WCED includes economic, environmental and social issues. These three basic principles of CSP, known as the “triple bottom line” (TBL), influence current and future generations (Elkington, 1998). According to this approach, each pillar of sustainability (environmental, economic and social) is important; therefore, this theory can be considered an integrated theory of sustainability (Tseng et al., 2015). This TBL approach was later adopted by the Global Reporting Initiative. Several aspects encourage organizations to follow SD practices, including legal, ethical, and business (Abbas and Sagsan, 2019). In this research, the following three aspects of CSP were selected: environmentally, economically and socially sustainable. Firstly, environmental sustainability (ENVS) mainly depends on the responsible management of industrial waste, reducing toxic waste and CO2 emissions, reducing the risk of dangerous accidents in factories, producing environmentally friendly products, etc. (Shahzad et al., 2019, 2020; Tseng et al., 2016). According to the International Energy Agency (2017), the manufacturing sector contributes around 24% of global CO2 emissions. To avoid global warming and prolonged climate change, we must control industrial damage by considering environmental sustainability. Second, economic sustainability (ECOS) is mainly related to profitability, revenue generation, efficient use of energy, use of waste to generate income, etc. (Cruz and Wakolbinger, 2008; Shahzad et al., 2019; Tseng et al., 2016). Organizations that seek to improve environmental sustainability by reducing adverse outcomes from production processes will also strengthen their economic sustainability.

This study will consider a framework that evaluates the contribution of Merger & Acquisition corporate actions to the company's sustainable performance.
expressed in financial terms proposed by Dočekalová & Kocmanová, (2016) using economic dimension indicators (Pislaru et al., 2019). This interaction analysis allows the assessment of the factors that affect the company's sustainable performance. These results are useful for the decision-making process of all stakeholders.

The role of integrated ownership as measured by indicators of ultimate ownership and the percentage of women on board is rarely discussed, although previous studies on the effect of the Merger & Acquisition corporate action on company performance under the framework of agency conflict between ultimate shareholders in a company were carried out. In addition, we include indicators of the existence of women's councils as the implementation of the SDGs related to corporate sustainability. This study also examines the effect of Merger & Acquisition interaction and integrated ownership on sustainable company performance as measured by market-base, accounting-base and organizational measurement indicators.

This study contributes to the literature on corporate governance oversight mechanisms. The external supervisory mechanism from the ultimate shareholder and the women on board internal control mechanism on the company's sustainable performance are in line with the concept of alignment agency theory. This research provides new knowledge to managers that it is not always the goal of the Merger & Acquisition corporate action to increase the controlling role by ultimate shareholders and women on board of the company. The direct effect of Merger & Acquisition on integration ownership is in the form of a U-curve. shows that the Merger & Acquisition corporate action serves as a moderator that will strengthen the influence of ownership integration on the company's sustainable performance. This paper is presented as follows. In Section 2 we provide a theoretical framework and review the relevant literature. In Section 3 we describe the design/methodology/approach. In Section 4 we explain the results of the research and discussion. In Section 5 conclusions.

2. Literature review

2.1 Sustainability theory

Sustainability theory was first put forward by (Meadows et al., 1972) who explained that society's efforts to prioritize social responses to environmental and economic problems. This social response is expected to meet the needs of the present and future generations (WCED, 1987). The concept of sustainability is
currently increasingly developing and being applied in the context of corporate sustainability (Pemer et al., 2020). Artiach et al. (2010); Pemer et al. (2020) explain the context of corporate sustainability as a business and investment strategy that can improve business practices by balancing the needs of present and future stakeholders. This concept emphasizes the interests of stakeholders by balancing the economic, social and environmental dimensions of company performance. Corporate Sustainability is usually measured through the Triple Bottom Line (TBL), this concept was developed by (Elkington & Rowlands, 1999). There are three dimensions of TBL, namely economic, social and environmental. Pemer et al. (2020) stated that companies can move towards sustainable development by integrating TBL into management strategies. Markley and Davis (2007); Pemer et al. (2020) proves that organizations that focus on TBL can increase the company's competitive advantage.

2.2 Agency theory

In this study, two theories will be reviewed, namely agency and corporate governance. In contemporary companies, where ownership and management are separated, managers do not always pursue efficient management to maximize company profits. Agency theory states that shareholders as principals and management agents have different interests. Agency theory (Jensen & Meckling, 1976) argues that substantial share ownership can reduce conflicts of interest that exist between company managers and shareholders (Chams & García-Blandón, 2019). In M&A deals related to post-deal ownership there are those that create value (Andriosopoulos & Yang, 2015; Wonder & Lending, 2019), or destroy firm value (Tao et al., 2019). This is due to the existence of directors who utilize the resources of their social network to pursue their own profits at the expense of shareholder wealth. This finding again shows the importance of the role of directors' incentives that come from their independence in carrying out their supervisory and advisory functions. In line with agency theory (Khaled et al., 2021) found a positive relationship between the level of corporate leverage and its sustainability performance and disclosure; states that highly leveraged firms tend to disclose more sustainability information to reduce the agency costs generated as a result of their higher debt levels. PAT sees information asymmetry between major shareholders and better-informed agents (often top executives) as a major source of conflict. Providing broader reporting on better practices will reduce this information gap, reduce agency costs, and therefore create shareholder value. Some studies suggest that increasing board size can lead to greater coordination/communication problems suggesting that as board size increases, directors become less effective in monitoring management and, thus,
CEOs become more powerful in influencing company decisions. This is because as the board gets bigger, it becomes more difficult for board members to reach agreement on important corporate decisions, it is difficult to achieve well-informed corporate dialogue (Pye, 2000).

2.3 Corporate governance theory

La Porta et al. (1999) argues that in general, corporate governance focuses on how the company's internal governance oversight mechanisms affect the behavior of top management and its economic consequences. Ultimate shareholders have an important role in corporate governance because they control and influence the company's activities. Ultimate shareholders can potentially expropriate minority shareholders (Cai et al., 2019). Corporate governance is based on stakeholder theory and legitimacy. This paper examines the influence of elements of corporate governance, particularly the board of directors, on sustainable performance (Kouaib et al., 2020; Widjajanti & Widodo, 2016). The company responds to sustainability-related issues raised by shareholders and stakeholders (Aksoy et al., 2020), and board structure (Naciti, 2019). Corporate governance mechanisms, particularly the board of directors, play an important role in monitoring the decisions and actions of the top management team. The quality of monitoring is likely to depend on the characteristics of the board (Malikov et al., 2021; Widjajanti, 2011).

Companies must remain aware of the pressures posed by shareholders and stakeholders regarding sustainability practices, and the increasing gender diversity may have an intermediary role between corporate governance, sustainability, and financial performance (Madaleno & Vieira, 2020). Gender diversity in the board of directors has attracted considerable attention from regulatory bodies, policy makers, companies and academia as a means to improve corporate governance and/or business ethics (Bertrand et al., 2019; Widjajanti et al., 2022) with regard to with corporate sustainable performance (Madaleno & Vieira, 2020; Tjahjadi et al., 2021). Gender diversity on the economic impact of M&A. The presence of women on board as monitors has a positive and statistically significant effect on the gains of the acquirer; and (ii) boards with three or more women, or where women represent more than 25% of the board, have a stronger impact on acquirer gains (Tampakoudis et al., 2022).

2.4 Variables and Indicators

Variable Merger & Acquisition is measured using five indicators. The current ratio (CUR) indicator for non-financial companies or the loan to deposit ratio
How the strategic to achieve corporate sustainable performance?

(LDR) for financial companies represents the liquidity ratio (Malikov et al., 2021). The debt to asset ratio (DAR) and debt to equity ratio (DER) indicators represent the solvency ratio (Gainet, 2010). Meanwhile, the return on assets (ROA) and net profit margin (NPM) indicators represent the profitability ratios (Krishnan et al., 2007). The ownership integration variable is measured using two indicators, namely the ultimate Ownership Indicator, the controlling shareholder can be or the main shareholder (La Porta et al., 1999) and the percentage of women on board as an indicator related to one of the Sustainable Development Goal 5, namely gender equality (Nicolò et al., 2021).

The CSP variable uses three indicators (Pislaru et al., 2019), as follows: (1) Market-based (investor returns) as the price-earnings (PE) ratio, related to the company's market performance; Price-earnings (PE) ratio is a measure used to compare the current stock market price with the company's earnings quality. The high value of this ratio indicates that investors have a good appreciation of the company's income. (2) Accounting-based (accounting returns) as: return on equity (ROE) is calculated as the ratio between net income and own equity. ROE is a measure used to assess the company's performance by looking at the amount of dividends paid by the company to shareholders compared to the amount of equity. (3) Organizational measures as operating margin (OM) to measure productivity which is calculated by comparing operating income and net sales (reduced by investment income). OM also serves as a measure of the efficiency of the company's operating activities.

3. Hypothesis development

There is a positive relationship between Merger & Acquisition of voting rights and excess voting rights of cash flow rights. The author argues that with a higher level of entrenchment. This reflects that the controlling shareholder in the company wants to take personal benefits from controlling rights (Thraya, 2015). PAT sees information asymmetry between principals (often shareholders) and better-informed agents (often top executives) as a major source of conflict. Providing broader reporting on better practices will reduce this information gap, reduce agency costs, and therefore create shareholder value (Lueg et al., 2019).

H1: Merger & Acquisition has a positive effect on ownership integration

Mergers and Acquisitions are significantly correlated with long-term performance, and we observe a marked increase in financial ratios over the long term (Caiazza et al., 2021). Measures of operating performance are often used to
evaluate the success of acquisitions because accounting-based measurements definitely capture the company's economic performance and represent actual. Leverage is debt to total assets and total equity at the end of the fiscal year before the announcement of the takeover of the acquiring company has a significant positive effect on increasing real financial ratios in the long term based on operational performance measures (Cui & Chi-Moon Leung, 2020).

H2: Merger & Acquisition have a positive effect on corporate sustainable performance

Based on agency theory, share ownership structure affects the company's sustainable performance (Gainet, 2010; Tjahjadi et al., 2021). Supervision structures and mechanisms have an important role in overcoming conflicts between principals and agents (Lestari et al., 2020). Regarding corporate sustainability, the board mechanism that implements social sustainability will provide benefits for the company (Chams and García-Blandón, 2019). There is a positive relationship between higher managerial synergies of firms acquiring post-acquisition firms on long-term performance and generating higher revenues, especially focusing on long-term operating performance (Cui & Chi-Moon Leung, 2020).

H3: Ownership integration has a positive effect on corporate sustainable performance

The effect of ownership on the total synergy of M&A agreements has a positive effect on company performance. The growth of share ownership can change the company's strategy as well as the decision-making process (Brooks et al., 2018). Acquiring companies with higher managerial capabilities achieve better long-term operating performance (Cui & Chi-Moon Leung, 2020).

H4: Ownership integration is able to mediate the effect of M&A on corporate sustainable performance.

The best end result of M&A will be achieved when considering the increase in shareholder value in terms of both financial performance and sustainability in the post-merger period (Caiazza et al., 2021).

H5: Merger & Acquisition is able to moderate the effect of ownership integration on sustainable corporate performance.
4. Method

The object of this research is the financial data of companies that carry out corporate actions of mergers and acquisitions as measured by three financial ratios, namely liquidity, solvency and profitability. The population consists of 61 companies listed on the Indonesia Stock Exchange carrying out corporate mergers and acquisitions from 2015 to 2019. The method of determining the sample uses non-probability sampling with purposive sampling method. The sample criteria are 1) conducting mergers and acquisitions between 2015 and 2019, 2) being listed on the Indonesia Stock Exchange, 3) reporting complete financial statements according to the year of observation. Based on these criteria, 51 companies were obtained.

Variable Merger & Acquisition (M&A) is measured using five indicators. Current ratio indicator (CUR) for non-financial companies or loan to deposit ratio (LDR) for financial companies, debt to asset ratio (DAR) and debt to equity ratio (DER) indicators as well as return on assets (ROA) indicators and indicators net profit margin (NPM). The five M&A indicators used are financial data in year t the
company carried out M&A. The ownership integration variable (OI) is measured using two indicators, namely the ultimate share ownership indicator (Ultm) after the M&A and the percentage of the number of women's boards (WoB) as an indicator related to one of the ongoing issues, namely gender equality. The two OI indicators used are t+1 or one year after the M&A. While the dependent variable corporate sustainable performance (CSP) uses three indicators, namely the ratio of price-earnings (PE), return on equity (ROE) and operating margin (OM) which is measured one year after (t+1) M&A.

\[ OI = a_0 + a_1 M&A + r \] (1)

\[ CSP = b_0 + c'M&A + (b_1 + b_2 M&A)OI + r \] (2)

Equation 2 clarifies how the regression of CSP on OI can be considered conditional on M&A. The point estimate of the conditional indirect effect of M&A on CSP is in this case \( f(\theta|M&A) = \tilde{a}_1(\tilde{b}_1 + \tilde{b}_2 M&A) \). It is easy to see
from the expression of \( f(\theta|M\&A) \) that the conditional indirect effect can depend on the chosen value of M&A. If the interaction effect between M&A and OI is close to zero, then \( \hat{b}_2 \) will be close to zero, M&A will have little influence on the indirect effect, and the conditional indirect effect reduces to \( \hat{a}_1(\hat{b}_1 \) for all values of the moderator (Preacher et al., 2007).

4.1 Approach

The purpose of the theoretical model is to predict the effect of Merger & Acquisition and ownership integration on corporate sustainability performance in their respective roles, both as mediator and moderator. The partial least square (PLS) method was applied using WarpPLS Version 7.0 software to perform the analysis.

Consistent with the methodology suggested by (Kock, 2022), the indicator approach to moderated mediation uses the PLS structural equation model (PLS-SEM). In analyzing the reliability of internal consistency, convergent validity, and discriminant validity, the quality of construct measurement will be assessed from the model. Furthermore, the significance of the path coefficients for the formative indicators and hypothesis testing were estimated using 999 bootstrap subsamples at 1 percent, 5 percent and 10 percent significance levels (Hair et al., 2011).

The mediation test was measured using the Variance Accounted For (VAF) method to strengthen the results of Baron and Kenny's mediation test. Partial mediation occurs when the VAF value is between 20 and 80 percent. Variance Accounted For (VAF) is calculated by dividing the indirect effect by the total effect. If the VAF is greater than 80 percent there is a full mediation effect, whereas if the VAF is less than 20 percent there is no mediation, or there is only a direct relationship (Hair et al., 2011).

This study will also test the existence of a moderator variable to determine whether the independent variable is the determinant of the dependent variable. The moderator variable can also be interpreted as a determinant of the strength of the role of the independent variable on the dependent variable. The moderator is said to be a pure moderator if the independent variable moderates the relationship between the mediator and the dependent variable, but the independent variable has no direct effect on the dependent variable (Dawson, 2014).
5. Results and Discussion

5.1 Demographic distribution

This study uses the Jackknifing resampling method because it tends to produce a relatively low standard error, more in line with the true value for a small sample size (Kock, 2018).

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Indicator Loadings</th>
<th>Type</th>
<th>SE</th>
<th>P-Value</th>
<th>ES</th>
<th>α</th>
<th>CR</th>
<th>AVE</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merger &amp; Acquisition (M&amp;A)</td>
<td></td>
<td></td>
<td>0.624</td>
<td></td>
<td>0.605</td>
<td>0.679</td>
<td>1.906</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CUR</td>
<td>0.619</td>
<td>Reflective</td>
<td>0.960</td>
<td>&lt;0.001</td>
<td>0.061</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DAR</td>
<td>0.601</td>
<td>Reflective</td>
<td>0.960</td>
<td>&lt;0.001</td>
<td>0.153</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DER</td>
<td>0.615</td>
<td>Reflective</td>
<td>0.960</td>
<td>&lt;0.001</td>
<td>0.212</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>0.881</td>
<td>Reflective</td>
<td>0.960</td>
<td>&lt;0.001</td>
<td>0.281</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NPM</td>
<td>0.733</td>
<td>Reflective</td>
<td>0.960</td>
<td>&lt;0.001</td>
<td>0.294</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership Integration (OI)</td>
<td></td>
<td></td>
<td>0.826</td>
<td></td>
<td>0.523</td>
<td>0.667</td>
<td>1.354</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ulm</td>
<td>0.942</td>
<td>Reflective</td>
<td>0.960</td>
<td>&lt;0.001</td>
<td>0.500</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wob</td>
<td>0.604</td>
<td>Reflective</td>
<td>0.960</td>
<td>&lt;0.001</td>
<td>0.500</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate Sustainable Performance (CSP)</td>
<td></td>
<td></td>
<td>0.697</td>
<td></td>
<td>0.746</td>
<td>0.754</td>
<td>1.713</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PER</td>
<td>0.841</td>
<td>Reflective</td>
<td>0.960</td>
<td>&lt;0.001</td>
<td>0.375</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>0.611</td>
<td>Reflective</td>
<td>0.960</td>
<td>&lt;0.001</td>
<td>0.267</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPM</td>
<td>0.992</td>
<td>Reflective</td>
<td>0.960</td>
<td>&lt;0.001</td>
<td>0.357</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Measurement model result

Combined loadings and cross-loadings are in line with expectations that the reflective latent variable loading, shown in brackets, will be high; and cross-loading will be low.

Standard errors (SE) were used in the multi-group analysis, with the same model but different subsamples. In research that wants to strengthen the analysis (robust) by comparing measurement models to ensure equality, use a multi-group comparison technique such as that conducted by Kock (2014a). The P value for all indicators is <0.001 indicating that the formative latent variable measurement item that has been built is correct. According to (Kock, 2014a) the recommended P value is 0.05 the value which is considered valid and meets the criteria in measuring formative latent variables. The highest VIF value as a result of this

http://dx.doi.org/10.13135/2384-8677/7916
study is 3.232, which is still below the VIF threshold of 3.300 which has been recommended in the context of PLS-based SEM in the measurement of formative latent variables (Kock, 2014a). The value of Weight-loading signs (WLS) is equal to 1, all of which means that all indicators make a positive contribution to the R-squared of the latent variable. It also shows that there is no Simpson Paradox (-1) which means that there is an indication of a causality problem which indicates that the hypothetical relationship between indicators and latent variables in the model does not make sense or is inverted (Kock, 2015; Kock & Gaskins, 2016). Effect Sizes (ES) value is the absolute value of the contribution of each indicator to the R-squared coefficient.

All indicator effects are moderate to large (ES>0.02) which means both for formative and reflective latent variables (Kock, 2014a).

Ten global fit models and quality indices are provided consisting of Average path coefficient (APC)=0.327, P<0.001; Average R-squared (ARS)=0.270, P=0.002; Average adjusted R-squared (AARS)=0.242, P=0.004. The P values for APC, ARS and AARS in this study were all in accordance with the recommendations, namely equal to or lower than 0.05; that is, significant at the 0.05 level. AVIF and AFVIF are used together as a measure of the indication of variation in collinearity. AFVIF is not sensitive to collinearity variations due to the use of a nonlinear algorithm. Meanwhile, AVIF is sensitive to the use of nonlinear algorithms. The recommended (ideally) AVIF and AFVIF values are equal to or lower than 3.3, especially in a model where most variables are measured through two or more indicators. In this study, each latent variable has three indicators. The value of AVIF 1.211 and AFVIF 1.602 in this study is lower than 3.3. PLS-based SEM algorithms in general tend to be very effective in reducing collinearity (Kock, 2022). Tenenhaus GoF (GoF)=0.307, which indicates that the explanatory power of the model is medium (>= 0.25) Wetzels et al. (2009). The value of Sympon's paradox ratio (SPR)=1,000 (acceptable if 0.7) means that at least 75 percent of the paths in the model are free from Simpson's paradox. The value of R-squared contribution ratio (RSCR) = 1,000 (acceptable if 0.9, ideally = 1) which means that the number of positive R-squared contributions in a model is 97 percent of the total absolute R-squared contribution in the model. Statistical suppression ratio (SSR) = 1,000, meaning that all paths in the model are free from statistical suppression. Nonlinear bivariate causality direction ratio (NLBCDR)=0.750 (acceptable if 0.7) which means that all paths in the model do not show the inversely hypothesized causality direction.
5.2 Latent variable coefficients

R-squared of ownership composition variable is 0.160 and R-squared of Corporate Sustainable Performance variable is 0.381. This means that the variance in the composition of ownership can be explained by the Merger and Acquisition by 16 percent, the remaining 84 percent is explained by other variables outside the model. This means that the variance of Corporate Sustainable Performance can be explained by Merger and Acquisition and the ownership composition is 38.1 percent, the remaining 61.9 percent is explained by other variables outside the model. The Adjusted R-squared coefficient is equivalent to the R-squared coefficient, with the main difference that the Adjusted R-squared corrects for a false increase in the R-squared coefficient due to the predictor adding no explanatory value in each block of latent variables. The coefficient values of R-squared and Adjusted R-squared are above 0.02, so there is no need for revision.

The composite reliability and the Cronbach's alpha coefficients should be equal to or greater than 0.7. An even more relaxed version sets this threshold at 0.6. A latent variable does not satisfy any of these criteria, the reason will often be one or a few indicators that load weakly on the latent variable. The AVE of each construct is very good, that is, above the recommended value of 0.5, it means that it meets the criteria for discriminant validity (Kock, 2014). Composite Reliability above 0.5 so that it meets internal consistency reliability. The value of Full Collinearity VIF for each very good construct is less than 3.3, which means that there is no collinearity problem in the model. The mean and standard deviation are not shown because the latent variable is standard; that is, they all have a mean of 0 and a standard deviation of 1.

<table>
<thead>
<tr>
<th></th>
<th>M&amp;A</th>
<th>OI</th>
<th>CSP</th>
<th>M&amp;A*OI</th>
</tr>
</thead>
<tbody>
<tr>
<td>M&amp;A</td>
<td>0.529</td>
<td>-0.345</td>
<td>0.499</td>
<td>0.455</td>
</tr>
<tr>
<td>OI</td>
<td>-0.345</td>
<td>0.667</td>
<td>0.148</td>
<td>0.019</td>
</tr>
<tr>
<td>CSP</td>
<td>0.499</td>
<td>0.148</td>
<td>0.754</td>
<td>0.488</td>
</tr>
<tr>
<td>M&amp;A*OI</td>
<td>0.455</td>
<td>0.019</td>
<td>0.488</td>
<td>0.323</td>
</tr>
</tbody>
</table>

Table 2. Correlation between latent variables and square roots AVE

Table 2. Presenting the recommended criteria for discriminant validity assessment is that each latent variable, the square root of the extracted AVE is all higher than any correlation (above or below it, in the same column; or to its left or right, in the same row) involving the latent variable.
5.3 Findings and discussion

The effect of Merger & Acquisition and ownership integration on corporate sustainability performance is measured using WarpPLS Version 7.0. The R Square value is 0.381 which indicates that the Merger & Acquisition and ownership integration causes variations in corporate sustainability performance by 38.1 percent. In contrast, the remaining 61.9 percent can be explained by variables not examined in this study. This R Square value explains that to achieve corporate sustainability performance, it is quite dependent on Merger & Acquisition and ownership integration. For comparison, the effect of Merger & Acquisition on ownership integration is 0.106. These results indicate that the variation of Merger & Acquisition only causes variation in ownership integration by 10.6 percent. Thus, the effect of the Merger & Acquisition experience is weak on ownership integration. There are 89.4 percent of variables that are not examined that have a more significant effect on ownership integration compared to Merger & Acquisition.
The path coefficient values are shown in Table 3. Part A shows the direct effect of each variable. Merger & Acquisition have a significant negative effect on Ownership Integration (β = -0.400, P-value < 0.001), so hypothesis 1 is rejected. In the context of research in Indonesia, these results are in line with research conducted by Pye (2000) that as ownership grows larger it becomes difficult to achieve a well-informed and challenging corporate dialogue about decisions taken by the board in management (Pye, 2000). High concentration of ownership does not necessarily reduce agency costs (Rossi et al., 2018).

Tested using the basic Warp2 algorithm to try to identify the existence of a non-linear relationship to the linear test results, the direct effect of Merger & Acquisition has a significant negative effect on Ownership Integration which causes hypothesis 1 to be rejected. We find a U-curve relationship between Merger & Acquisition and Ownership Integration variable pairs in the estimated path coefficients in the model (Figure 4.). The Warp2 algorithm used will change (or “curve”) the score of the Merger & Acquisition latent variable so that it can better describe its relationship with the ownership integration predictor variable.
This shows that the Merger & Acquisition corporate action will have a significant positive effect on ownership integration if the Merger & Acquisition value is greater than 32.84 percent, while the average value of Merger & Acquisition in the observed companies is 25.20 percent (Figure 4.)

Merger & Acquisition has a positive and significant effect on Corporate Sustainable Performance ($\beta = 0.394$, P-value $< 0.001$), so hypothesis 2 is accepted. Merger & Acquisition will improve Corporate Sustainable Performance. These results are in line with research (Caiazza et al., 2021; Cui & Chi-Moon Leung, 2020; Khaled et al., 2021). This means that when a company carries out a Merger & Acquisition, the more likely it is that increasing Corporate Sustainable Performance, the company's leverage level has a positive effect on its sustainability performance and disclosure; states that highly leveraged firms tend to disclose more sustainability information to reduce the agency costs generated as a result of their higher debt levels.

Furthermore, the results of another direct influence, namely Ownership Integration, have a significant and positive effect on Corporate Sustainable Performance of $\beta = 0.219$ with P-value $= 0.013$, so hypothesis 3 is accepted. The results of this study are in line with research (Cui & Chi-Moon Leung, 2020;
Gainet, 2010; Tjahjadi et al., 2021) which states that the integration of ownership as measured by indicators increases Corporate Sustainable Performance.

5.4 Mediation analysis

In this study, the role of Ownership Integration as a mediator between Merger & Acquisition and Corporate Sustainable Performance will be tested. To explore the significant role of mediators between Merger & Acquisition and Corporate Sustainable Performance, different estimates were obtained, namely total effect, indirect effect, path coefficients, and bootstrap. In Table 3 Part B shows that there is a positive and significant indirect relationship on the effect of Merger & Acquisition on Corporate Sustainable Performance after being mediated by Ownership Integration. These results are sufficient to accept hypothesis 4.

Partial mediation occurred because the indirect effect of the independent variable on the dependent variable (β=0.307, P-value<0.10) the coefficient was smaller than the direct effect of the independent variable on the dependent variable (β=0.394, P-value<0.001) (Baron & Kenny, 1986). When tested using the Variance Accounted For (VAF) method, the results show that there is partial mediation because the VAF value is between 20 to 80 percent (VAF = 28.7 percent. Thus, Ownership Integration acts as a partial mediator of the relationship between the effect of Merger & Acquisition on Corporate Sustainable Performance.

5.5 Moderated Mediation

Moderation test is applied in this study to interpret whether the determinants of the weakness or strength of Merger & Acquisition in the relationship between ownership integration and Corporate Sustainable Performance. It is suspected that there is an interaction between Merger & Acquisition and Integration of ownership on Corporate Sustainable Performance, so the researcher has reasons to investigate moderation. In this study, Merger & Acquisition also acts as a moderator which strengthens the effect of ownership integration on Corporate Sustainable Performance (β=0.294, P-value<0.001). The moderator’s role is indicated by an increase in the coefficient value of the direct relationship between ownership integration and Corporate Sustainable Performance (β=0.219, P-value=0.013). Thus hypothesis 5 is accepted.

The moderating effect can be seen from the Merger & Acquisition latent variable which is hypothesized to moderate the relationship between ownership integration and corporate sustainable performance. The 3-dimensional (3D)
How the strategic to achieve corporate sustainable performance?

The graph in Figure 5 shows a moderating relationship involving two latent variables, a moderating variable and a pair of variables connected through a direct link. The sign and strength of the path coefficient for the moderating relationship refer to the effect of the moderating variable on the sign and strength of the path for the direct relationship being moderated (Kock, 2022). If the path for the direct relationship moves from the low to high range of the moderating variable, then the sign of the path coefficient for the corresponding moderating relationship will be positive and the path coefficient will be relatively high; so that the Merger & Acquisition variable produces a strengthening and statistically significant moderating effect on the direct relationship between ownership integration variables and corporate sustainable performance. In this study the Merger & Acquisition moderator variable interacts with the ownership integration mediator variable in such a way that the value of the indirect effect changes depending on the moderator variable value, resulting in moderating mediation.

![Figure 5](image.png)

**Figure 5.** The moderating effect of Merger & Acquisition

The extant literature on corporate sustainable performance has been focused on the direct influence of various factors and organizational strategies. This research identified OI as a key mediator between the RM and corporate sustainable performance, which is previously limited (Adams and Graham, 2016; Brix, 2017). The examination of the mediating role of OI in the proposed model provides a
novel theoretical point of view in the context of emerging economies. This is because just a very few studies have explored an intervening role of OI in various cultures (Hamann et al., 2017). Third, this study revealed that OI is an important determinant of corporate sustainable performance and its all dimensions that keep the environment clean and enhance the sustainable development; however, OI has a strong effect on the environmental dimension of corporate sustainable performance. Consequently, this research contributes to the RBV in the developing country context that OI remains a significant factor in the context of corporate sustainable performance. Finally, the research advances a better understanding that KMP is important for corporate sustainable performance. Finally, this study advances the knowledge of how OI can improve for accomplishing corporate sustainable performance by communicating and applying the knowledge into corporate strategies and operations. This empirical research, however, is the first to test the moderation of OI among RM, Ac and corporate sustainable performance. Accordingly, these results provide supplements for literature about corporate sustainable performance. Wong (2013) highlighted the significant role of KMP in influencing the OI because GI can enhance the corporate sustainable performance to fulfill the requirement of sustainable development. The current research extends the findings of Wong (2013) by exhibiting that KMP facets impact corporate sustainable performance through OI in the developing country context. In a nutshell, results revealed that all dimensions of corporate sustainable performance are the most persuasive drivers, which offer solutions to environmental degradation and cost-efficiency that provide support to sustainable development. Thus, organizations can perform effectively and efficiently.

6. Conclusions

After the M&A action, it causes a decrease in the effect of ownership integration as measured by the ultimate share ownership indicator and the presence of a female board in the company. M&A agreements, which are measured using financial indicators, make the company bigger and thus the ultimate shareholding grows bigger, making it difficult to achieve corporate dialogue and decisions taken by the board in management. In line with the concept of ultimate shareholder entrenchment can affect corporate governance. We find a U-curve relationship between the Merger & Acquisition and Ownership Integration variable pairs, which means that the M&A agreement will align with the ownership integration after the M&A agreement through the point of 32.84. This reflects efforts to increase control by controlling shareholders to maximize their
interests through M&A. M&A agreements, and ownership integration as measured by the presence of controlling shareholders and women on board affect corporate sustainable performance. The M&A agreement creates a stronger link between Ownership Integration and corporate sustainable performance. In this study, it was found that Ownership Integration also acts as a partial mediator on the relationship between M&A and Corporate Sustainable Performance. This research is only using the perception of corporate sustainable performance in terms of the company’s finances. Future research is suggested to investigate the special case of M&A, on environmental, social, and governance as a measure of corporate sustainable performance.

References


https://doi.org/10.13135/2384-8677/7916


https://doi.org/https://doi.org/10.1016/j.hitech.2020.100390


https://doi.org/10.18510/hssr.2020.8237

https://doi.org/10.1016/j.esr.2020.11.092

https://doi.org/https://doi.org/10.1016/j.jbusres.2020.08.042

http://dx.doi.org/10.1016/j.jairtraman.2016.04.022


Vis Sustain, 20, 301-328  http://dx.doi.org/10.13135/2384-8677/7916
Brazilian case studies. *Journal of Cleaner Production*, 136, 123–133. https://doi.org/10.1016/j.jclepro.2016.01.103


Authors
Kesi Widjajanti, (corresponding author)
Department of Management, Faculty of Economics, University of Semarang, Semarang City, Indonesia kesi@usm.ac.id

Rohmini Indah Lestari,
Department of Management, Faculty of Economics, University of Semarang, Semarang City, Indonesia

Eviatiwi Kusumaningtyas Sugiyanto,
Department of Management, Faculty of Economics, University of Semarang, Semarang City, Indonesia

Funds
This research was funded by the Indonesian National Research and Innovation Agency. Therefore, the author would like to thank the institution for the financial support that has been provided.

Competing Interests
The authors hereby state that there are no financial or non-financial competing interests.

Citation

© 2023 Widjajanti, Lestari, Sugiyanto
This is an open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (http://creativecommons.org/licenses/by/4.0/).