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## **Mitigating Agency Conflicts: The Role of Board Characteristics**

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doi.org/10.51505/IJEBMR.2025.9811

URL: <https://doi.org/10.51505/IJEBMR.2025.9811>

Received: Aug 04, 2025

Accepted: Aug 12, 2025

Online Published: Aug 21, 2025

### **Abstract**

Corporate governance stands as a cornerstone in bridging the divide between ownership and control, yet agency conflicts persistently threaten firm value. This research delves into the critical role of board characteristics in mitigating these pervasive conflicts within Indonesian manufacturing companies from 2021-2023. Utilizing a robust panel regression model with 339 observations, our findings reveal a significant relationship between gender diversity on the board of commissioners and reduced agency costs, suggesting improved information symmetry and minimized conflicts of interest. While gender diversity emerges as a key mitigator, our analysis did not find a significant relationship between agency costs and educational or age diversity across the models. This study underscores the complex and context-dependent nature of board characteristics' influence on agency costs, occasionally contradicting previous findings, particularly concerning asset utilization. By providing empirical insights into specific board attributes, this research offers invaluable guidance for companies seeking to optimize their board composition for enhanced corporate governance and ultimately, improved firm performance. It also highlights the necessity for further nuanced research considering diverse industrial contexts and additional variables such as ownership structure and audit quality.

**Keywords:** agency theory, agency conflict, agency costs, board characteristics

### **1. Introduction**

Corporate governance holds a significant role in ensuring the sustainable growth and continued existence of a company. The implementation of good corporate governance helps in maximizing company value and protecting the interests of shareholders. One of the main challenges in corporate governance is addressing agency conflicts, which arise from the separation of ownership and control, leading to potential divergences between the interests of principals (shareholders) and agents (management) (Jensen & Meckling, 1976). These conflicts can result in agency costs that negatively impact firm performance and investor confidence. Base on agency theory, which presents the relationship between a principal who delegates their decision-making authority to an agent, the divergence of interests between principal and agent stems from

the self-interest of each party, particularly opportunistic actions by the agent. According to Mukyala et al. (2020), because agents possess more information about the company than principals, achieving alignment between them can incur agency costs.

Hendrastuti dan Harahap (2023) state that the issue remains relevant, and in-depth research on agency costs is still limited. Effective governance plays a crucial role in safeguarding shareholder interests and preventing opportunistic behavior by agents. This can prevent problems like moral hazard and adverse selection (Kim, D.S. et al. 2021). Extensive research has been conducted on the relationship between board characteristics and agency costs, with studies exploring the impact of various board-level factors on agency cost measures such as asset utilization, operating expenses, external monitoring costs, and bonding mechanisms.

Within this framework, the characteristics of a company's board of commissioners are widely recognized as crucial elements for effective oversight and strategic guidance. However, despite extensive research, there remains a complex and often contradictory picture regarding the precise influence of various board characteristics, such as board size, the proportion of independent commissioners, board activity, and gender, educational, and age diversity on agency costs. Prior studies have frequently yielded inconsistent findings, suggesting that the relationships between these governance attributes and agency costs are highly nuanced and context-dependent. This lack of consensus highlights a significant research gap, particularly in understanding how these board characteristics function and impact agency costs within specific market environments.

Board characteristics significantly influence firm performance and agency costs. Board size, independence, and gender diversity are generally associated with improved firm performance and reduced agency costs (Pucheta-Martínez & Gallego-Álvarez, 2020; Ain et al. 2020). Female directors are effective in reducing agency costs, particularly in state-owned enterprises and developed regions (Ain et al. 2020). Boards with a greater number of women tend to reduce agency costs due to enhanced monitoring (Ain et al. 2020; Amin et al. 2022). This is supported by Adams dan Ferreira (2009) concluding that women tend to be more meticulous than men, leading to improved oversight and decision-making quality. Board independence and activity positively influence the quality of integrated reporting (Vitolla et al. 2020). However, the relationship between board characteristics and sustainability performance is complex, with smaller, gender-diverse, and independent boards achieving better outcomes (Amin et al. 2022). Family ties between the CEO and the board can increase agency costs, but strong governance mechanisms can mitigate this effect (Zhang et al. 2020). Board composition has differing impacts on agency costs in large and small banks (Baral dan Patnaik, 2021). Interestingly, some board characteristics associated with agency cost reduction, such as independence and gender diversity, can paradoxically increase greenwashing behavior, which can negatively impact firm value (Ghitti & Palma, 2020).

In addition to board gender diversity, the age of board members correlates positively with experience and business acumen. This potentially enhances monitoring effectiveness and decision-making, thereby reducing agency costs arising from managerial missteps. Economic

theory suggests that long-standing boards or companies possess more experience and knowledge in addressing agency conflicts (Sulong & Ahmed, 2011). Conversely, board members who are too advanced in age may struggle to adapt to new developments. Educational diversity within the board can provide a range of expertise and perspectives that enhance decision-making (Ilaboya & Obaretin, 2015), particularly when confronting complex issues. Adequate board knowledge or insight can lead to better oversight of financial matters, impacting company performance and potentially lowering agency costs. Board members with financial or accounting backgrounds can strengthen the monitoring function and reduce the risk of financial information manipulation. Furthermore, synergy between age and educational background can optimize board effectiveness. Combining senior experience with legal expertise and technological knowledge from younger members can strengthen governance and foster adaptation to technological change. This research innovates by examining the impact of board age and educational diversity on agency costs—two under-explored areas. While the experience and business acumen of older directors can enhance oversight and decision-making, potentially mitigating agency costs from managerial missteps, excessive age can hinder adaptability. Educational diversity provides varied expertise and perspectives, thereby improving decision-making, particularly in complex situations. Adequate board knowledge strengthens financial oversight, impacting company performance and potentially lowering agency costs. Directors with financial or accounting backgrounds bolster monitoring and mitigate the risk of financial manipulation. Furthermore, the synergy between age and educational background optimizes board effectiveness. Combining senior experience with legal expertise and technological knowledge from younger members strengthens governance and facilitates adaptation to technological advancements. The research will investigate the combined effects of these factors, offering novel contributions to corporate governance literature.

Against this backdrop, this study aims to examine the influence of key board characteristics, including board size, independent commissioners, board activity, gender diversity, educational diversity, and age diversity, on agency costs within manufacturing companies listed on the Indonesia Stock Exchange. By focusing on the Indonesian context, a rapidly developing emerging economy with its own unique cultural, legal, and economic landscape, this research seeks to provide nuanced insights into how these governance attributes function in a non-Western setting and contribute to resolving the existing contradictions in the literature.

Our findings contribute to the corporate governance literature by providing empirical evidence from a significant emerging market, helping to explain some of the observed inconsistencies in previous research by highlighting the importance of contextual factors. This study also offers practical implications for regulators, investors, and companies in Indonesia by identifying which board characteristics are most effective in mitigating agency costs, thereby promoting stronger corporate governance practices and enhancing firm value.

The remainder of this paper is structured as follows: next sub section presents a comprehensive literature review, including the theoretical framework and the development of hypotheses. Section 2 details the research methodology, followed by the presentation and analysis of

empirical results in Section 3. Finally, Section 3 also discusses the conclusions, implications, and suggestions for future research.

### *1.2 Resource Dependence Theory*

According to resource dependence theory, organizations are open systems that depend on external resources for survival. In addition to this theory, states that boards of directors help companies improve their performance by reducing dependence on the outside world and unplanned events (Pfeffer & Salancik, 1978).

In this case, the board of directors sets general guidelines for making strategic decisions in gaining credibility for the company based on its honorable position among members of the community and offers communication channels to external entities through which they can exchange information and gain access to external resources (Hillman et al. 2007).

Furthermore, gender-diverse boards benefit boards of directors by encouraging better board discussion and consideration of difficult issues for male boards. In addition, their presence on the board provides legitimacy to the organization in the eyes of the public. Their diverse backgrounds give them the ability to connect the organization with important suppliers, such as investors and women-owned and minority-owned businesses (Hillman et al. 2007).

### *1.3 Board Size and Agency Costs*

The size of the board in a company can also be a determinant in the level of agency costs. Allam (2018) explains that the ideal board size is one that can improve the ability of the board of directors to maximize shareholder wealth. Board size greatly influences how operational activities within the company run. According to Coles, J. L. et al. (2008) the best board size depends on the characteristics of the company and its surrounding environment.

Based on resource dependence theory, companies must manage a well-managed internal structure to reduce dependence on external resources. The internal structure must be well managed to be effective in preventing dependence (Kouser et al. 2012). Shakir, R. (2008) states several shortcomings in board size. The difficulty of communicating and discussing is due to having a board size that tends to be large. It takes greater effort for larger boards to reach agreements, and final decisions from larger groups reflect more compromises compared to smaller group decisions (Kogan, N. & Wallach, M. A. 1966). Jensen, M. C. (1993) dan Yermack, D. (1996) state that companies with large board sizes tend to be inefficient and have high agency costs due to difficult management. According to Hafsyah, A. N. et al. (2022), the board is the person mandated to carry out operations within the company (Farooq et al. 2018; Usman et al. 2015).

The composition of the company's board, especially the board of commissioners, is important in managing agency costs. Good board characteristics will improve decision-making to improve outcomes for the company in the future without sacrificing the interests of the owners (Baral &

Patnaik, 2021). Some countries focus on the role of governance quality in mitigating agency costs (Godfrey, 2010). A high level of agency costs will trigger a low level of performance in terms of the company's board. Therefore, the composition of the board in the company must be built to achieve alignment in reducing agency costs. Based on this perspective, the following hypothesis is proposed:

H<sub>1a,b,c</sub>: Board size has effect on agency costs.

#### *1.4 Independent Board and Agency Costs*

The independent board of commissioners is a very important internal control mechanism. An independent board of commissioners indicates the presence of external members on the company board who are more effective in supervising managers (Tulung & Ramdani, 2018). An independent board of commissioners is achieved through professional independent members in assessing manager performance, finding solutions to agency conflicts, and monitoring executive decisions (Arora & Sharma, 2016). Agency theory states that board participation will increase the independence of the board of commissioners and improve company performance by reducing agency costs (Lückerath-Rovers, 2013). An independent board of directors is effective in lowering agency costs (Agarwal & Singh, 2020).

An independent board of commissioners is a very important internal control mechanism. Based on agency theory (Allam, 2018), the board of directors must be independent in carrying out its duties as a monitor and controller. Agency theory states that board independence accelerates strict oversight of the pursuit of self-interest, thereby helping to reduce the likelihood of agency costs and fraud (Bosse & Phillips, 2016; Fama & Jensen, 2005). However, this does not necessarily make it possible for the board of directors to have serious monitoring because it requires good knowledge and skills (Armstrong et al. 2015). An independent board of commissioners is very important for the board in considering the interests of shareholders (Carter, 2003). For this reason, the second hypothesis proposed is as follows:

H<sub>2a,b,c</sub>: Independent board has effect on agency costs.

#### *1.5 Board Activity and Agency Costs*

Board activity is a structure within the board of directors (Arosa et al. 2013). The way to evaluate whether boards carry out activities in accordance with the interests of their shareholders is to monitor their activities. Board efficiency depends on the frequency of board meetings (Kim et al. 2021). Meetings of the board of commissioners provide active monitoring so that they can reduce agency conflicts. In addition, better communication between directors and managers can be observed when board meetings are held more frequently. Company performance will improve if the board of directors holds meetings more often, as this will allow its members to discuss important issues that are identified (Evans & Weir, 1995). This indicates an effective internal control system. Female directors are more likely to attend meetings than male directors regarding oversight on the board of directors. In addition, female directors are more likely to be members

of committees that oversee corporate governance and are more critical of manager performance (Adams, R. dan Ferreira, D. 2009; Cumming, D. et al. 2013; Farrell, K. A. dan Hersch, P. L. 2005). Based on this perspective, the third hypothesis proposed is as follows:

H<sub>3a,b,c</sub>: Board activity has effect on agency costs.

### *1.6 Gender Diversity and Agency Costs*

Gender diversity is a characteristic of an effective board (Ain et al. 2020). Generally, female boards are more independent, responsible, and can reduce conflicts of interest (Li & Li, 2020). Gender diversity on the board of directors (Adams & Ferreira, 2009) can reduce agency conflict because women ask more questions and tend not to interfere with shareholder interests. The perspective related to the active evaluation of decisions when there is gender diversity on the board of directors makes shareholders benefit from monitoring in a more significant way (Chen et al. 2016).

Gender diversity on boards of directors can help businesses improve stakeholder communication and monitoring systems, which can reduce the likelihood of agency problems, according to resource dependence theory and agency theory (Ain et al. 2020). Having more women in senior management can expand collective knowledge within the group by minimizing systematic bias and providing unique cultural experiences compared to male boards (Bass, 2019).

Research from various countries shows mixed results. One of them (Storvik, 2011) explains that Norway was the first country to pass legislation on gender representation on company boards. In December 2023, the Norwegian parliament passed new regulations requiring at least 40% of each gender in companies. The goal is to create better gender equality and increase company profits even though many do not have good enough capabilities to fill the quota. In 2009, all female boards had reached 40%. This was successfully implemented because the sanctions given were quite severe for companies that did not comply. The sanction is that after several warnings, the authorities can dissolve companies that do not comply with the rules.

Research on companies listed in China found that a critical mass of female directors (at least three) is more effective in reducing agency costs compared to token female participation. Specifically, they found that companies with a higher proportion of female directors showed lower agency costs, as measured by asset turnover, free cash flow, and discretionary spending. These findings suggest a certain threshold of female participation on boards may be necessary to yield desired governance benefits, such as mitigating agency conflicts (Ain et al. 2020).

A study of companies listed in China found that company boards with a critical mass of female directors (defined as at least three women) have a greater tendency to reduce agency costs than those with one female director (Muzanni & Yuliana, 2021). The researchers attribute this to the increased monitoring and oversight capabilities of gender-diverse boards, which helps align the interests of managers and shareholders.

In addition, research on Fortune 500 companies in the United States has shown that a higher percentage of female officers is associated with lower agency costs, although the relationship may not be strong when considering the endogeneity of diversity (Jurkus et al. 2011). These findings suggest that female representation on corporate boards can have significant implications for corporate governance and mitigating agency costs. The authors suggest that female officers can strengthen control mechanisms and better align the interests of managers and shareholders.

Other findings on companies listed in India indicate that a critical mass of female directors may be needed to effectively reduce agency costs (Agarwal & Singh, 2020) and their impact can be influenced by factors such as ownership structure and regional context. Findings regarding the presence of women on boards of directors and agency costs vary in companies listed in Iran (Salehi et al. 2018). This research shows evidence that a higher proportion of women on boards may be associated with increased agency costs, but this result was not consistently observed across all three agency cost models used.

A study from Pakistan Amin et al. (2022) found that the presence of female directors on boards significantly reduces agency costs, reducing principal-agent conflict. Boards with three or more female directors have a stronger impact in reducing agency costs compared to boards with two or fewer female directors. This supports critical mass theory, which argues that a certain proportion of minority members is needed to effect change. From the research findings above, the hypotheses proposed are as follows:

H<sub>4a,b,c</sub>: The presence of women has an influence on agency costs.

H<sub>5a,b,c</sub>: Gender diversity of the board of commissioners can reduce agency costs.

### *1.7 Education Diversity and Agency Costs*

Ilaboya & Obaretin (2015) that boards knowledgeable in a particular industry can better achieve success. This plays an important role in recognizing, analyzing business problems, and providing adequate alternative solutions to any business problems that arise. According to Vo & Nguyen (2014), sufficient board knowledge can lead to better oversight in financial matters, so a lack of supervisory knowledge in the industry will have an impact on the company's declining performance. A board of commissioners with diverse educational backgrounds can provide broader expertise to the board of commissioners. However, the diversity of educational backgrounds in the board of commissioners can be a double-edged sword. On the one hand, such diversity can enrich perspectives. On the other hand, differences in perspective and communication styles can make coordination and decision-making difficult. Furthermore, formal education does not always guarantee relevant practical experience, which is important for the effectiveness of the board in controlling agency costs. Based on these contradictory thoughts, the following hypothesis is proposed:

H<sub>6a,b,c</sub>: The diversity of education of the board of commissioners can reduce agency costs.

*1.8 Age Diversity and Agency Costs*

Older boards will have far more experience, knowledge, and competence than newly formed boards (Ang et al. 2000). Boards or companies that have been around for a long time have more experience and knowledge in how to deal with agency conflicts (Sulong & Ahmed, 2011). Directors on a board with long tenure often experience subjective attitudes when making important decisions (Barroso et al. 2011). Hambrick & Mason (1984) argue that companies with younger managers experience significant productivity compared to older ones. Older boards of commissioners tend to have more experience and business acumen. This can improve the quality of supervision and decision-making, thereby reducing agency costs arising from management errors. However, commissioners who are too old may be less adaptable to change and innovation. Older commissioners may be more independent from management, as they tend to have less financial dependence on the company. This can enhance oversight and reduce the potential for collusion between management and the board of commissioners. Based on the description, the following hypothesis is proposed:

H<sub>7a,b,c</sub>: Age diversity of the board of commissioners will reduce agency costs.

**2. Method**

*2.1 Data Description and Research Objects*

The research design is causal. The research object is manufacturing companies listed on the Indonesia Stock Exchange during the period from 2021 to 2023. The reason for choosing this sector is because manufacturing companies tend to have complex operations, extensive supply chains, and substantial assets. This complexity can increase the potential for agency conflicts between management and shareholders. The selection of the 2021-2023 period also allows analysis of the impact of the COVID-19 pandemic on corporate governance in this sector. The sample selection method uses a purposive sampling technique which is presented in Table 1.

Table 1. Sample Selection

No	Criteria	Firm	Data
1.	Manufacturing companies continuous listed on IDX.	162	486
2.	Failed to release annual reports.	(18)	(54)
3.	The fiscal year end is not December 31st.	(2)	(6)
4.	Incomplete data.	(29)	(87)
	Data	113	339

Based on the table above, incomplete data occurs because there are companies that do not have nominal sales expenses, age data that is not included, the number of meetings and education levels that are not included.

## *2.2 Variable Definitions and Measurement*

### *2.2.1 Agency Costs*

Agency costs are costs that arise from any situation involving a principal (shareholder) and an agent (manager) Jensen & Meckling, 1976). These costs occur because there is a misalignment of interests between the principal and the agent, requiring additional costs to align their interests. Principals can use their rights to increase their own profits at the expense of minority shareholders. These costs refer to financial incentives that allow agents to improve performance with the goal of enriching the company. Agency costs are measured using expense ratio 1 (EXP1), which is the proportion of revenue used to cover selling and administrative expenses, expense ratio 2 (EXP2), which is the proportion of revenue used to cover administrative expenses, and asset utilization ratio (AUR), which is the management of assets to generate income (Ain et al. 2020).

This ratio is used to examine the efficiency of agents in company operations that use excessive administrative and selling costs, as well as inefficient utilization of assets, resulting in a decrease in company revenue which causes an increase in agency costs because the agents are unable and incompetent in managing their company (Ain et al. 2020). The use of these three ratios reflects managerial discretion to spend company resources and measures the level of effectiveness of investment decisions made by company management and the company's ability to optimally utilize assets (Ang et al. 2000).

### *2.2.2 Board Characteristic*

Board characteristics are a governance characteristic that plays an important role in restoring shareholder confidence in providing welfare for them and increasing company value so that it can contribute to company capital (Abdel-Aziz & Alrabba, 2023). Board size refers to the total number of individuals serving as commissioners on a company's board (Ain et al. 2020; Journali & Manurung, 2023; Inawati et al. 2021). This metric is a direct count of the board's membership and is often considered a structural characteristic with significant implications for governance effectiveness and organizational outcomes. Independent commissioners refer to the proportion or number of board members who are free from any material relationship with the company, its management, or controlling shareholders, ensuring their objectivity and unbiased judgment (Chaudhary, P. 2022). Board activity is typically measured by the frequency of formal meetings held by the board of commissioners within a specific period (e.g., annually) (Salehi et al. 2021). This indicator reflects the board's engagement level and the intensity of its oversight and strategic involvement. Gender diversity refers to the representation of different genders on the board of commissioners, specifically focusing on the number and proportion of female commissioners within the company's board structure (Ain et al. 2020). Educational diversity refers to the breadth and variety of academic backgrounds, qualifications, and fields of study among the members of a company's board of commissioners (Salehi et al. 2021). Age diversity within a company's board of commissioners signifies the distribution and range of ages among its members (Horváth & Spirollari, 2012).

The following is the measurement of the research variables used:

Table 2. Variables Measurement

No	Variable	Measurement
Agency Cost (dependent)		
1.	EXP1	Selling and administrative expenses to the company's net sales (Ain et al. 2020).
2.	EXP2	Administrative expenses to net sales (Ain et al. 2020).
3.	AUR	Total revenues/total asset (Ain et al. 2020).
Independent variables:		
4.	Board size (Bsize)	Number of boards of in the company (Ain et al. 2020).
5.	Board Independent (Bind)	Number of independent boards divided by the number of boards in the company (Hafsyah, A. N. et al. 2022).
6.	Board Activity (Beffort)	Total number of meetings in a year in a company (Salehi et al. 2021).
7.	Gender Diversity (Fem1) (GenDiv)	Score 1 if there is one female, 0 if there is none or more than one. Proportion of female board in a company (Ain et al. 2020)
8.	Education Diversity (EduDiv)	at least, one of the board members has a PhD degree, it takes 1, and 0 otherwise (Salehi et al. 2021)
9.	Age Diversity (AgeDiv)	Average board age in the company (Horváth & Spirollari, 2012)

### 2.2.3 Data Analysis Method

The data analysis method used is multiple linear regression using IBM Statistical Package for the Social Science (SPSS) software. The following empirical for three model will be used:

$$Y = \beta_0 + \beta_1 BSize + \beta_2 BInd + \beta_3 BEffort + \beta_4 Fem1 + \beta_5 GenDiv + \beta_6 EduDiv + \beta_7 AgeDiv + \varepsilon$$

(1)

Y = Agency costs as measured by three proxies:

EXP1 = Expense ratio 1; EXP2 = Expense ratio 2; AUR = Asset utilization ratio

This research model has passed the normality test and is free from classical assumption problems (multicollinearity, autocorellation and heteroscedaticity).

### 3. Results and Discussion

#### 3.1 Descriptive Statistic

Table 3 shows the descriptive statistical results of the panel data, which are as follows.

Table 3. Descriptive Statistic

Variable	N	Minimum	Maximum	Mean	Standard Deviation
EXP1	339	0.0073	29.2130	0.2370	1.5842
EXP2	339	0.0024	28.9084	0.1546	1.5682
AUR	339	0,0001	9.6676	0.9974	0.8078
BSize	339	2	10	4.0383	1.7291
Bind	339	0.1667	0.7500	0.4192	1.7291
BEffort	339	2	16	7.0324	2.7265
Fem1	339	0	1	0.3835	0.4870
GenDiv	339	0.0000	0.6667	0.1343	0.1744
EduDiv	339	0	1	0.2743	0.4468
AgeDiv	339	42	78.25	60.535	7.1703

The average value of agency costs (EXP 1 and EXP 2) of 0.2370 and 0.1546 respectively indicates that the company has efficiency in managing company expenses. This condition shows that the agent has the responsibility to carry out his role properly while still paying attention to the company's expenses. The agent acts to manage expenses well so that the company's income is maintained, which in turn fulfills the welfare of the agent and principal. Then the average value of agency costs with an asset utilization ratio (AUR) of 0.9974. This figure shows that agents are efficient in managing company assets. This means that the agent has the responsibility to carry out his role well because he can maximize asset management to generate income. The higher the AUR value, the lower the agency costs.

#### 3.2 Coefficient of Determination Analysis and F test

Table 5 shows the coefficient of determination (cap R squared close paren in the EXP1, EXP2 and AUR models of 0.024; 0.038 and 0.003, respectively. This value means that the variation in the dependent variable of agency costs with the proxy of load ratio 1, load ratio 2 and asset utilization ratio can be explained by the variation in the independent variables of board size, independent board of commissioners, board activity, gender diversity, educational diversity, and age diversity of 2.4%; 3.8% and 0.3%, respectively, while the remaining 97.6%; 96.2%; and 99.7% are explained by variations in other variables not included in this research model. The F test of the three models has a significance value below 0.05. These results indicate that the three models are statistically reliable for research purposes (model fit).

Table 5. Coefficient of Determination Analysis *and F Test*

Model	Adjusted R <sup>2</sup>	F test
EXP1	0.024	0.042
EXP2	0.038	0.007
AUR	0.003	0.048

### 3.3 Hypotesis Test

Based on regression processing, the t-test results are shown in table 6.

Table 6. t Test

Variable	Model 1 EXP1		Model 2 EXP2		Model 3 AUR	
	B	Sig.	B	Sig.	B	Sig.
(Constant)	1.856	0.064	3.605	0.000	5.881	0.000
BSize	2.043	0.042	-1.165	0.245	-2.013	0.045
BInd	0.347	0.729	0.119	0.905	-2.198	0.029
BEffort	0.047	0.963	-0.683	0.495	-1.940	0.053
Fem1	-2.371	0.018	-2.866	0.004	-0.190	0.849
GenDiv	3.196	0.002	3.377	0.001	-0.568	0.570
EduDiv	0.415	0.678	-0.230	0.818	0.145	0.885
AgeDiv	-0.727	0.468	-1.497	0.135	-0.822	0.412

The size of the board of commissioners in model 1 obtained a sig. value of 0.042, model 2 obtained a sig. value of 0.245, and model 3 obtained a sig. value of 0.045. Models 1 and 2 have results that are in line with H<sub>1</sub>. Models 1 and 3 prove that the size of the board of commissioners has a positive effect on agency costs, which means that large board sizes tend to be inefficient and have high agency costs due to management that is difficult to reach agreement (Shakir, 2008). This condition shows that the effectiveness of the board of commissioners is not only determined by the number of members, but also by the quality of each member. A smaller board of commissioners with competent and independent members may be more effective in overseeing management and reducing agency costs than a larger board of commissioners with less qualified members. It is difficult to communicate and discuss due to the large size of the board. Large boards tend to experience difficulties in communication and coordination, which can hinder the decision-making and oversight process. The decision-making process becomes more complex and time consuming, which can hinder the effectiveness of supervision of management. (Baral and Patnaik 2021) state that a large board of commissioners can experience mismonitoring which leads to higher agency costs. This result contradicts (Kim, D. S. et al. 2021). Meanwhile, Model 2 shows that board size has no effect on agency costs. The size of the board of commissioners is not the only determinant of its effectiveness. A smaller board with high-quality members, such as competent and independent, can be more effective than a larger board with less qualified members.

The independent board of commissioners in model 1 obtained a sig. value of 0.729, model 2 obtained a Sig. value of 0.905, and model 3 obtained a sig. value of 0.029. Models 1 and 2 prove that the independent board of commissioners has no effect on agency costs and model 3 shows that the independent board of commissioners has a positive effect on agency costs. When these results contradict the hypothesis formed. It should be noted that the number of independent commissioners does not guarantee that it will have an effect on increasing or decreasing agency costs, although it is expected to reduce agency costs. Their effectiveness depends on sufficient expertise and industry knowledge to carry out effective supervision. In general, independent commissioners are expected to reduce agency costs, but certain conditions may have no effect on agency costs even if the number of independent commissioners increases. Although formally classified as independent, some commissioners may have close ties to management or controlling shareholders, reducing their independence in practice so independent commissioners may not always be effective in reducing agency costs. In addition, independent commissioners may not have sufficient expertise or industry knowledge to effectively oversee management and understand business complexities. Baral and Patnaik (2021) discuss how board composition can affect agency costs, and expertise is one factor to consider. Huu Nguyen et al. (2020) state that an independent board of commissioners increases agency costs. This happens because of limited expertise so that it cannot carry out its supervisory function properly which results in greater agency problems, causing agency costs. This condition shows that it is not enough to have a large number of independent commissioners if it is not supported by expertise. These findings are not in line with (Agarwal & Singh, 2020 Hafsyah et al. 2022).

The activity of the board of commissioners (BEffort) in model 1 obtained a sig. value of 0.963, model 2 obtained a sig. value of 0.495, and model 3 obtained a sig. value of 0.053. These three values are greater than 0.05 so it can be concluded that  $H_3$  is not supported. The frequency of board meetings does not directly correlate with their effectiveness. Less frequent meetings, with a focus on strategic issues and effective supervision, can produce a more significant impact than more frequent meetings that only discuss routine agendas. Agarwal & Singh (2020) discuss how too frequent board meetings can waste time on unnecessary discussions and reduce time for effective oversight. Each board meeting incurs costs, including travel, accommodation and commissioner time. Too frequent meetings can significantly increase these costs, which directly affects the expense ratio. Salehi et al. (2021) state that more meetings with the board of directors can increase agency costs due to absences from the board, but for the quantity of meetings more often. This finding is not in line with (Kim et al. 2021).

The existence of a female board of commissioners (Fem1) shows that models 1 and 2 support  $H_4$  which means that the existence of a board of commissioners has a negative effect on agency costs. This means that the female board of commissioners in the company tends to increase cost efficiency so that it will reduce agency costs because it can manage costs effectively which in turn can improve company performance (Ain et al. 2020: Muzanni and Yuliana, 2021). Agency costs are a complex concept and are influenced by various factors. It is difficult to isolate the impact of the presence of a female board of commissioners from other factors, such as ownership

structure, firm size, and industry characteristics. Therefore, this study did not find a significant relationship between the presence of a female board of commissioners and agency costs.

Gender diversity (GenDiv) in models 1 and 2 obtained a Sig. value smaller than 0.05 so it can be concluded that  $H_5$  is accepted which means that gender diversity has a positive effect on agency costs. Meanwhile, model 3 shows results that do not support the hypothesis formed. Some studies show that gender diversity can lead to increased conflict and difficulty in board decision making. Solal and Snellman (2019) show that bias and discrimination against female directors can hinder their ability to contribute effectively to the board. This can reduce the benefits of gender diversity and potentially increase agency costs. These results contradict (Bass, 2019) where having more women in senior management expands the collective knowledge within the group by minimizing systematic bias and providing unique cultural experiences compared to male boards. In general, female boards are more independent, responsible, and can reduce conflicts of interest (Li & Li, 2020). In addition, a female board of commissioners in the company may reduce the efficiency of asset utilization because they tend to choose to increase risk, which can increase agency costs that reduce revenue in the company. Therefore, the effect of gender diversity may depend on the qualifications and experience of each board member, not just on their gender. One or two women on a male-dominated board may not be enough to bring about significant changes in group dynamics and decision-making. It is important to keep in mind that research on the relationship between gender diversity and agency costs is still evolving, and results have not been entirely consistent. More research is needed to better understand the dynamics and factors that influence this relationship.

Educational diversity (EduDiv) in models 1, 2, and 3 obtained a Sig. value above 0.05 so it is concluded that  $H_6$  is not supported. Diversity in educational backgrounds can lead to differences in perspectives and communication styles, which can complicate coordination and decision-making within the council. Formal education does not always guarantee practical ability. Board members with diverse educational backgrounds may lack practical experience relevant to the company's business and therefore have no effect on agency costs. This result is not in line with Vo & Nguyen (2014) who show that sufficient board knowledge can lead to better supervision in financial matters so that if there is a lack of supervisory knowledge in the industry, this has an impact on company performance which decreases so that it can increase agency costs. Likewise, Ilaboya & Obaretin (2015) state that a highly knowledgeable board in a particular industry can achieve more success so as to reduce agency costs.

Age diversity (AgeDiv) for all three models has a Sig. value greater than 0.05 so it can be concluded that  $H_7$  is not supported. An age-diverse board does not determine whether the company can run effectively. Other factors that determine good cost and asset management depend on a high level of education and mature knowledge, as well as a qualified level of experience. Age diversity can increase conflicts due to differences in thinking, which can tend to reduce performance. Mature educated members are more likely to improve company performance as they have mature experience in managing the company. Younger board members may be more innovative and growth-focused, while older members can provide valuable insight

and experience. This result is different from Collevocchio et al. (2024) who stated that age in a team can improve performance especially in complex tasks because it encourages a variety of alternative solutions.

The attributes of the board of commissioners significantly influence the dynamics of agency costs, acting as a determinant in their increase or decrease. Existing research on board characteristics is extensive, yet it has yielded inconsistent findings. This study adds educational diversity and age diversity as characteristics to consider from previous researchers. The results show that there are different results in the three models, except for board activity, educational diversity, and age diversity. The results obtained from these three models show a contradiction between the hypotheses taken. Board activity is not fully compatible with effective company operations because more frequent meetings do not determine company efficiency. Focus on strategic issues is an important reference so that company operations can run effectively and efficiently so as to improve performance for the company. Educational diversity also causes differences in perspectives that trigger conflicts between internal companies so that it can complicate communication. Formal education does not guarantee the ability to manage the company effectively. Diverse ages do not determine whether the company runs effectively. Other factors besides age diversity can determine its effectiveness, namely the level of maturity and experience in managing the company properly. However, gender diversity and the presence of female commissioners in models 1 and 2 tend to conclude that female commissioners can reduce agency costs and thus improve company performance. Other characteristics of the board of commissioners require more correlated measurements or consider other factors that are thought to have an influence on agency costs.

This research highlights the significant role of gender diversity within boards of commissioners in mitigating agency costs. Manufacturing companies on the IDX may consider increasing gender diversity in their boards of commissioners to improve the effectiveness of management decision-making and oversight, despite the contradiction with asset utilization. In addition, the results show that the relationship between board characteristics and agency costs may vary depending on the specific context of the firm and industry. Therefore, it is important for firms to consider other factors when designing corporate governance strategies.

It is important to note that the findings of this study reveal contradictory results when compared with previous research, particularly concerning their lack of demonstrated influence on agency costs within manufacturing companies listed on the Indonesia Stock Exchange. Our discussion aims to provide a more nuanced understanding of the relationship between board characteristics and agency costs within the specific context of Indonesian manufacturing companies. While our findings align with some existing literature, it is crucial to address instances where our results diverge from prior studies, such as board size, independent commissioners, educational diversity, age diversity. These deviations are not merely contradictory but offer valuable insights into the contextual complexities influencing corporate governance.

To adequately explain these differences, we delve into the unique cultural, legal, and economic landscape of Indonesia. For example, our finding that increased independent commissioners do not consistently reduce agency costs can be understood by considering the practical application of independence in Indonesia. Despite formal classifications, some commissioners may maintain close ties to management or controlling shareholders, a common phenomenon in environments where informal networks and familial relationships play a significant role in business. This practical reality can potentially dilute the theoretical benefits of independent oversight, leading to outcomes that differ from studies conducted in more established markets with distinct corporate governance norms.

Furthermore, cultural aspects such as the emphasis on harmony or consensus-seeking behavior within Indonesian business settings may influence board dynamics. This could affect how diverse perspectives, stemming from characteristics like educational or age diversity, are effectively integrated into decision-making processes, potentially explaining why the impact of such diversity on agency costs might vary compared to Western contexts. Similarly, the specific regulatory framework or the prevalence of certain ownership structures within the Indonesian market could shape the effectiveness of board mechanisms differently.

By systematically analyzing these contextual factors, our study moves beyond simply reporting mixed results to offering a deeper, context-specific explanation for the observed relationships. This approach enhances the theoretical understanding of corporate governance, particularly in emerging economies, by highlighting that the effectiveness of board characteristics is profoundly contingent on the unique environment in which they operate."

This research only focuses on manufacturing companies listed on the Indonesia Stock Exchange. The results of the study may not be generalizable to other industrial sectors or companies in other countries. The results of this study contradict several previous studies related to the effect of board size, independence, activity, gender diversity, and educational diversity on agency costs. This shows the complexity of the relationship between these variables and the need for further research. Suggestions that can be given are to conduct similar research in other industrial sectors to test the generalizability of the results of this study and understand the effect of board characteristics on agency costs in various industrial contexts.

A limitation of this study is the potential for endogeneity issues, which could arise from unobserved factors influencing both board characteristics and agency costs, thus potentially biasing the estimated coefficients. While we have employed static panel data approach and ordinary least square fully addressing all potential sources of endogeneity would require more advanced econometric techniques (e.g., instrumental variables or GMM), which were beyond the scope of this study.

Furthermore, this study did not explicitly control for several important contextual variables that could influence agency costs, such as detailed ownership structure (e.g., concentration of ownership, family ownership, state ownership) and firms' past financial performance. These

factors can significantly interact with or directly affect the relationship between board characteristics and agency costs, and their exclusion might limit the generalizability or precision of our findings

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