# The Interactive Effects of Superior Trust and Subordinate Involvement in Decision Making on Budget Gaming and Budget Value

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Keywords: Superior Trust, Subordinate Involvement in Decision Making, Budget Gaming, Budget Value.

Abstract: This study aims to investigate if the interaction between superior trust and subordinate involvement in decision making has an impact on budget gaming and budget value. A survey questionnaire was conducted and 145 Indonesian managers from manufacturing companies answered-questionnaire. Partial Least Square was used to test the hypotheses. Results indicate that superior trust has a negative effect on budget gaming. The finding suggests that superior trust is stronger in reducing the budget gaming when interacting with subordinate involvement in decision making. In contrast, the relationship between superior trust that interacts with subordinate involvement in decision making and budget value is insignificant. The results also indicate that superior trust has a positive effect on budget value. We also find that the budget gaming significantly mediates the relationship between superior trust and budget value. Specifically, the results find that budget gaming significantly mediates the relationship between budget value and superior trust that interacts with subordinate involvement in decision making. The study provides empirical evidence on how the interactive between superior trust and subordinate involvement in decision making can be stronger in reducing budget gaming behaviour and increasing budget value compared to if there is no involvement of subordinates in decision making.

## 1 INTRODUCTION

Budget value is defined as the added value obtained from the budgeting process after considering the time spent by the management in the budgeting process and the effectiveness of the budgeting system in helping business units to achieve goals, including reducing dysfunctional behavior (Libby and Lindsay, 2010). The budgeting process has the potential to add value when the budgeting process focuses on achieving company's goals (eg Neely et al., 2003; Libby and Lindsay, 2010). Salterio, 2015 suggests to focus on how, when, and where accounting and management control practices can work well and be beneficial to create value in the budgeting process.

Libby and Lindsay, 2019 state that superior trust is beneficial in the budgeting process and makes an important contribution to budget value. The trusting relationship that is built early on between superiors and subordinates could reduce dysfunctional behavior and could contribute in creating budget values. This is an important step for the development of the budgeting literature (Libby and Lindsay, 2019). Libby and Lindsay, 2019 support the perspective of Jensen, 2001 who states that lack of trust is a problem of traditional budgeting. This leads to the perspective, that a control system is needed to create trust between superiors and subordinates.

Previous studies have examined the relationship between trust and budget gaming (budgetary slack). For example, Gago-Rodríguez and Naranjo-Gil, 2016 found that superiors with high trust in subordinates will produce low slack and vice versa, that distrust tends to create slack. Gilabert-Carreras et al., 2012 and Maria and Nahartyo, 2012 also state that trust reduces budgetary slack.

This study examines the relationship between trust and dysfunctional budgetary behavior in a broader framework, namely budget gaming. So far, there are still a few studies that associate trust with budget gaming. Libby and Lindsay, 2019 show that trust has a negative effect on the budget gaming. This means that the higher the trust, the lower the budget gaming in the company. Superior trust is expected to

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make superiors more open in welcoming subordinates' participation in decision making (Brower et al., 2009; Olson et al., 2007). The existence of superior trust in subordinates leads to higher quality interactions which make subordinates more comfortable, confident, active in contributing knowledge, dare to differ from others' views and leading to higher quality decisions (Brower et al., 2009; Olson et al., 2007).

Besides superior trust, the participation of subordinates (managers) in making budget decisions is also needed to produce better information related to budgeting (Dunk, 1993). Hansen and Mowen, 2013 reveal that employees' participation in the budgeting process will encourage creativity, increase responsibility and provide challenges for lower and middle level managers which lead to higher performance achievement. The involvement of middle and lower level managers in the budgeting process will create decisions that are more realistic and in line with company goals.

As the previous studies have confirmed the relationship between trust and dysfunctional behavior, namely that trust can reduce gaming, and that the budgeting process also requires subordinate involvement in decision making, this study suspects that subordinate involvement in decision making could strengthen (moderate) the effect of superior trust on dysfunctional behavior (budget gaming). In addition, to understand how superior trust benefits the budgeting process and contributes to budget value (Libby and Lindsay, 2019), this study also investigates whether budget gaming mediates the relationship between superior trust and budget value and examines whether budget gaming mediates the interaction between superior trust with subordinate involvement in decision making with budget value.

Abroad, studies on budget gaming are generally conducted in western countries with a sample of manufacturing companies. Specifically for the study of budget value, only the study by Libby and Lindsay, 2019 was found,. There are also very few studies on budget gaming in Asia in the private sector, for example Huang and Chen, 2010 in Taiwan; SeTin et al., 2019; Rachmat and SeTin, 2020. Budget studies in Indonesia have so far been dominated in the realm of the public sector and government agencies, for example Komarawati, 2010, Herwiyanti, et al., 2016. There are still limited studies on budget gaming and budget value, both in Europe and in Asia. Therefore, this study prefers managers of private companies in Indonesia in order to increase the understanding of behavior in budgeting and their contribution towards budget value, particularly in relation to superior trust and subordinate involvement in decision making. This study also follows the direction of Daumoser et al., 2018, namely that budget gaming requires further research by examining various explanatory variables as this topic is associated to the complex interaction between individual and organizational interests.

This study contributes to the budgeting literature because it extends the previous understanding of the relationship between trust and budget dysfunctional behavior. This study provides evidence that the trust relationship that interacts with subordinate involvement in decision making will be stronger in reducing dysfunctional behavior in budget gaming. This study is a recent study that systematically and empirically examines the role of budget gaming mediation in the relationship between superior trust and budget value moderated by subordinate involvement in decision making. Considering that there are still very few studies on budget value and budget gaming both abroad and domestically, the results of this study enrich the literature on management control systems, especially in the topic of budgeting. This study also contributes practically in providing understanding to managers about how budget value is related to superior trust, subordinate involvement in decision making, and budget gaming. This study also provides an alternative practical solution to the budgeting problem that has yet to be resolved, namely the budget gaming problem.

# 2 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

## 2.1 Literature Review

Superior trust is defined as the trust of senior managers towards the capability of lower managers (Libby and Lindsay, 2019). Superior trust generates greater respect and trust towards the capability of subordinates to perform well (Olson et al., 2007). When the superior's trust is high, subordinates tend not to take risks that would violate their superior's trust by engaging in dysfunctional behavior (Lewis and Weigert, 2012). Trust will increase the exchange of information between superiors and subordinates, thereby reducing information asymmetry. Higher trust from superiors to subordinates would gain the trust in subordinates which further negates the need for gaming (Bart, 1988). Higher trust from superiors also causes superiors to have high-quality interactions

with subordinates, making subordinates more comfortable and confident in actively contributing to their local knowledge and even challenging the perspective of others (Brower et al. 2009; Olson et al., 2007), so this leads to the higher of quality decisions from subordinates.

Budgeting involves complex decisions due to the uncertainty of a changing competitive environment (Libby and Lindsay, 2019). Subordinate involvement in decision making means that subordinates are fully involved in the budgeting process. Budget decisions that involve subordinates in the budgeting process on the one hand could improve manager performance, and on the other hand can have negative consequences on manager behavior, such as manipulating information and manipulating budget performance measures / doing budget gaming (Lukka, 1988).

Budget gaming is a dysfunctional behavior in the budget due to pressure to meet or make it easier to achieve budget-related performance goals (Libby and Lindsay, 2019). Budget gaming refers to the behavior of reporting deviant information such as reporting costs and income that are too low or too high, delaying or accelerating expenses, making investments that sacrifice profits (Libby and Lindsay, 2010). Simmons, 2012 states that budget gaming is a behavior of developing budget information which is not based on actual expectations of availability and needs, but rather on the amount designed / manipulated to achieve budget performance.

Budget value is defined as the value that could be added to the business unit management of the budgeting system / process that is conducted after considering the time spent by management in the budgeting process and the effectiveness of the budget system in helping the business unit to achieve goals, including reducing dysfunctional behavior (Libby and Lindsay). , 2010). Budget value is defined as the ability of a budget to help in achieving organizational goals (Libby and Lindsay, 2019).

## 2.2 Hypothesis Development

### 2.2.1 Superior Trust and Budget Gaming

Superior trust is the trust of the senior managers towards the capability of lower managers (Libby and Lindsay, 2019). High trust in the capability of subordinate results in better respect and performance of subordinates (Olson et al., 2007) so that it will reduce information asymmetry and reduce the tendency of subordinates to commit budget slack (Gago-Rodríguez and Naranjo-Gil, 2016). This is reinforced by Libby and Lindsay, 2019 which stated that superior trust has a negative effect on the budget gaming. The higher the trust of superiors in subordinates, the less the budget gaming behavior will be.

On the other hand, a lower level of superior trust would cause a lack of open communication and cooperation so that subordinates would embrace a defensive behavior (Dirks and Ferrin, 2002). Regarding the budget, Jensen, 2001 states that the budgeting process could encourage managers to behave dysfunctional against the long-term interests of the company. Therefore, this study suspects that the superior's trust in their subordinates can reduce the budget gaming behavior. **H1: Superior trust has a negative effect on the budget gaming.**

### 2.2.2 The Effect of Superior Trust on Budget Gaming Moderated by Subordinate Involvement in Decision Making

Libby and Lindsay, 2019 state that trust has a negative effect on the budget gaming. This means that the higher the trust, the lower the budget gaming that occurs in the company. Competent and capable managers (subordinates) are less likely to rely on fraud to achieve their budget targets if there is trust in them. In addition, managers (subordinates) tend to understand the negative impact of the budget gaming, which is, it could negatively impact their future rewards, causing them to act in a more collaborative and honest way (Coletti et al., 2005). As the budgeting process is an important and complex activity because it has the possibility of functional and dysfunctional impacts on the attitudes and behavior of organizational members, to prevent dysfunctional impacts of budgeting, all the upper, middle and lower-level managers must be given the opportunity to participate in the budgeting process (Hansen and Mowen, 2013). Spreitzer and Mishra, 1999 found a positive relationship between superior trust and managerial involvement in decision making. This study suspects that the involvement of subordinates in every decision making can strengthen the relationship between superior trust and budget gaming. **H2: Superior trust will be stronger in reducing the budget gaming when moderated by subordinate involvement in decision making**.

### 2.2.3 Superior Trust and Budget Value

In the budgeting process, budgeting involves slight complex decisions, which often involve a level of uncertainty due to the changing and more complex

competitive environment. This requires a higher quality interaction between superiors and subordinates and requires increased authority, shared responsibility, and greater involvement in decision making (Brower et al., 2009; Olson et al. 2007). Therefore, value creation in the budgeting process is highly dependent on the management of the budgeting system. According to Libby and Lindsay, 2019, budget value is a perception of the added value provided by a budgeting process. Budget value can also be considered as the level of budget effectiveness in helping business units to achieve their goals. Libby and Lindsay, 2019 suggest that there is a significant effect between superior trust and budget value. **$H_{3a}$: Superior trust has a positive effect on budget value.**

### 2.2.4 Mediating Effects of Budget Gaming on the Relationship between Superior Trust and Budget Value

Libby and Lindsay, 2019 define superior trust as the trust of senior managers in the capability of lower managers. Superiors are more likely to receive feedbacks from subordinates or there are involvements of subordinates when the superior trusts the subordinates' capability (Bol and Lill, 2015). When superiors trust is high, subordinates are less likely to risk violating their superiors' trust by engaging in gaming behavior (Lewis and Weigert, 2012). This context allows subordinates to debate in a more realistic budget than when there is no trust towards lower managers, and this could reduce the motivation to behave in gaming and increase the budget value (Libby and Lindsay, 2019). Libby and Lindsay, 2019 suggest that superior trust has a substantial effect, either directly or indirectly, on managers' perceptions of budget value. This study suspects that superior trust has an indirect effect on budget value, namely through the budget gaming. **$H_{3b}$: Budget gaming mediates the relationship between superior trust and budget value.**

### 2.2.5 The Effect of Superior Trust on Budget Value if Moderated by Subordinate Involvement in Decision Making

Libby and Lindsay, 2019 state that superior trust has an effect on budget value through increased involvement from lower levels of management in the decision-making process in the field of budgeting. Furthermore, lower-level managers often have more complete knowledge and information about their area of responsibility than higher-level management. This enables them to contribute in planning, coordinating with other units, identifying and resolving problems (Shields and Shields, 1998; Spreitzer and Mishra, 1999).

Olson et al., 2007 states that higher trust facilitates the active involvement of subordinates because it could make them feel more comfortable and confident, hence they openly and actively provide their personal information and knowledge and even without fear of consequences if they disagree with their superiors and colleagues. On the other hand, in the absence of superior trust, subordinates are more likely to respond / refuse politely rather than willing to actively provide and directly challenge the views of others (Olson et al., 2007). Hypothesis (H3a) suspects that superior trust will increase budget value and if superior trust interacts with subordinate involvement in decision making, it will strengthen the relationship between the two. Therefore, this study suspects that **$H_{4a}$: Superior trust will be stronger in increasing the budget value if it is moderated by subordinate involvement in decision making.**

### 2.2.6 The Mediating Effects of Budget Gaming on the Interactive Relationship between Superior Trust Moderated by Subordinate Involvement in Decision Making with Budget Value

Superior trust is expected to generate value for the company and reduce the budget gaming. Libby and Lindsay, 2019 explain that superior trust is negatively related to budget gaming and positively related to subordinate involvement in decision making. According to Spreitzer and Mishra, 1999 and Olson et al., 2007, high trust affects the budget value through the involvement of lower-level management in decision making in the field of budgeting. Libby and Lindsay, 2019 state that in particular, higher trust from superiors to subordinates would reduce the vulnerability felt by senior managers due to the participations of subordinates in the budgeting process in a consequential way. This causes superiors to welcome the active participation of subordinates, and the involvement of subordinates is expected to moderate the relationship between superior trust and budget value when mediated by budget gaming. **$H_{4b}$: Budget gaming mediates the effect between superior trust and budget value which is moderated by subordinate involvement in decision making.** The complete conceptual model and the

relationships between the hypothesis can be seen in Figure 1.

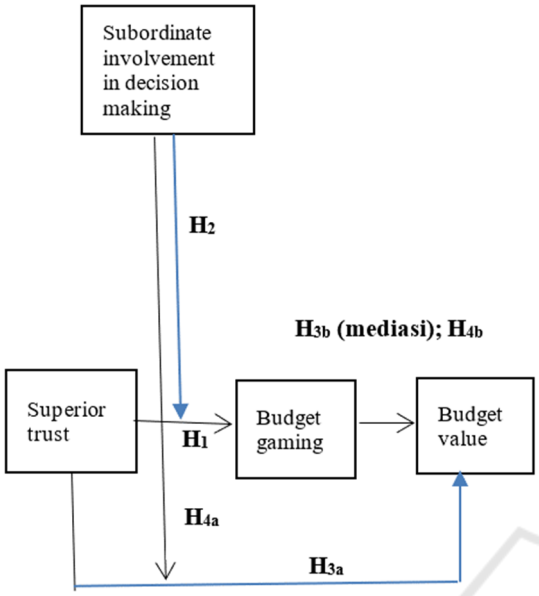


Figure 1: Conceptual Model.

# 3 METHODS

## 3.1 Sample Selection and Data Collection

To test the hypothesis, this study uses data collected through a questionnaire survey in Indonesia. The sample of this study is operational level managers at 54 large manufacturing companies in Southeast Sulawesi Province, Indonesia (https://sultra.bps.go.id/, 2019). The size of the large companies refers to data from the Central Bureau of Statistics in Southeast Sulawesi Province, namely industries with a workforce of> 100 people. The selected manufacturing sector and sample based on the number of employees are for industrial control purposes and company size control (Lau and Scully, 2018). The manufacturing industry is also chosen because it is a large industry that affects the economy of a region/ country and large industries are also chosen because accounting and control procedures tend to be more sophisticated in larger companies (He and Lau, 2012).

The sampling method is a non-probabilistic random sampling method (snowballing technique), by distributing questionnaires to managers known by the researchers (9 managers from 8 companies) and then distributing the questionnaires to other managers at manufacturing companies. The reason for choosing managers in Sulawesi province is because, so far, studies on the budget in Indonesia have been largely concentrated on Java island, while studies with sample outside of Java are still rare. Studies on budget gaming are still very rarely conducted in Asian countries (Rachmat and SeTin, 2020), and studies on budget values are still very rare, both in European and Asian countries. There are 162 respondents of managers of large manufacturing companies who participated in this study. However, only 145 questionnaires were completed and could be analyzed.

## 3.2 Measurement of Variables

Superior trust is measured using 5 (five) question items adopted from Libby and Lindsay, 2019, namely (1) Senior managers show high respect for lower level managers; (2) Senior managers believe that lower level managers want to do the job well; (3) Senior managers believe that lower level managers are capable of doing a good job; (4) Senior managers assign responsibilities to lower level managers to improve the performance of business units; (5) Senior management believes that the performance of lower level managers has a big impact on what could happen in the business unit.

Subordinate involvement in decision making, is measured using 4 (four) question items developed by Libby and Lindsay, 2019, namely (1) I can communicate vertically or horizontally depending on where the manager needs information; (2) I reassess tasks that are given continuously to deal with new problems or new opportunities; (3) The business unit where I work always takes advantage of teamwork to achieve integration and adaptation in managing functional dependencies. (4) The communication that is often conducted in the business unit where I work is often in the form of consulting, sharing information, or giving advice.

The gaming budget is measured by (five) question items from Libby and Lindsay, 2019. Respondents were asked to provide feedback regarding the behavior of budget gaming in order to achieve budget targets in their department. Among them are: (1) Spending the unused budget at the end of the budget period; (2) Delaying the necessary expenses; (3) Accelerating sales at the end of the reporting period; (4) Increase expenditure; (5) Negotiating budget targets that are easier to achieve.

Budget value is measured by 3 (three) question items developed by Libby and Lindsay, 2010. Respondents are asked to give their opinion about the

value or benefits obtained from the budget system in their department, which is related to (1) The time spent in budgeting is equivalent with the benefits received from the budget system; (2) The current budget system helps companies to achieve goals, including reducing dysfunctional behavior. (3) Even though there is a possibility of deviant behavior in the effort to reach the budget, the budget system that is implemented still provides benefits for the company.

Every single question in all variables were measured using a 7-point interval scale, namely a scale of 1 (strongly disagree) to a scale of 7 (strongly agree).

# 4 RESULTS AND DISCUSSION

Structural Equation Modelling (SEM) with a component-based method (PLS-Partial Least Square) is used for hypothesis testing. PLS produces a measurement model, a model that connects latent variables with manifest variables that can be used to evaluate the validity and reliability of the instrument. In addition, PLS also produces a structural model to evaluate the goodness of fit of the model.

## 4.1 Measurement Model and Structural Model

Validity is evaluated through convergent validity and discriminant validity of each indicator, while reliability is evaluated through Cronbach's Alpha value and composite reliability. The validity test with convergent validity uses the AVE (average variance extracted) value. The AVE value that is accepted is a value with a minimum threshold of 0.5 (Hair et al., 2014). The average variance extracted (AVE) value shows how much the variation is, in each indicator, which could be explained by latent variables. Table 2 shows the AVE value for each construct ranging from 0.664 - 0.763. The results of the validity test show that the convergent validity is acceptable. The results of the validity test, which also uses discriminant validity, which is based on the cross loading of the indicator value, with the general rule that an acceptable outer loading value is ≥ 0.7 (Hair et al., 2014). Table 1 shows all items (17 items) of all constructs (4 constructs) possess outer loading values above 0.7. This means that there is no cross loading and also shows an agreeable discriminant validity.

In order to find out whether the indicators used to measure the three latent variables have a high degree of conformity, composite reliability and average variance extracted are calculated. According to Hair et al., 2014 the composite reliability value between 0.70 to 0.9 is considered acceptable. Table 2 shows that the Cronbach's alpha (CA) value for each construct ranges from 0.843 - 0.880, and the composite reliability (CR) value for each construct ranges from 0.906 - 0.912. The results of this reliability test show an acceptable internal consistency reliability.

Table 1: Cross-Loading Between Construct.

| Indicator | ST | SI | BG | BV |
|---|---|---|---|---|
| ST1 | **0.921** | 0.037 | -0.336 | 0.331 |
| ST2 | **0.821** | 0.066 | -0.306 | 0.274 |
| ST3 | **0.808** | 0.016 | -0.343 | 0.304 |
| ST4 | **0.804** | 0.101 | -0.282 | 0.309 |
| ST5 | **0.706** | 0.026 | -0.259 | 0.203 |
| SI1 | 0.114 | **0.838** | 0.045 | 0.113 |
| SI2 | -0.027 | **0.872** | 0.079 | 0.075 |
| SI3 | 0.063 | **0.793** | 0.086 | 0.062 |
| SI4 | 0.049 | **0.882** | 0.068 | 0.103 |
| BG1 | -0.240 | 0.034 | **0.808** | -0.252 |
| BG2 | -0.345 | 0.086 | **0.879** | -0.294 |
| BG3 | -0.354 | 0.064 | **0.833** | -0.256 |
| BG4 | -0.354 | 0.094 | **0.874** | -0.286 |
| BG5 | -0.233 | 0.045 | **0.709** | -0.217 |
| BV1 | 0.376 | 0.084 | -0.178 | **0.816** |
| BV2 | 0.263 | 0.048 | -0.330 | **0.871** |
| BV3 | 0.292 | 0.144 | -0.321 | **0.930** |

Note: ST (Superior Trust); SI (Subordinate Involvement); BG (Budget Gaming); BV (Budget Value)

Table 2: Construct Reliability (CR) and Average Variance Extracted (AVE).

| Latent Variable | CR | CA | AVE |
|---|---|---|---|
| Superior trust (ST) | 0.908 | 0.872 | 0.664 |
| Subordinate involvement (SI) | 0.910 | 0.868 | 0.717 |
| Budget gaming (BG) | 0.912 | 0.880 | 0.677 |
| Budget value (BV) | 0.906 | 0.843 | 0.763 |

Structural model is a model that connects exogenous latent variables with endogenous latent variables or the relationship between endogenous variables and other endogenous variables. R Square value is used to test the structural model. The value of R square shows the magnitude of the effect of certain independent latent variables on the dependent latent variables based on the research model. In general, the R square value is 0.75; 0.50; and 0.25 is interpreted as substantial, moderate, and weak (Hair et al. 2014). The results show that the prediction oriented measure

($R^2$ = 0.52%) for budget gaming, which is described by superior trust and the interaction of superior trust with subordinate involvement in decision making. The results also show the value of ($R^2$ = 0.26%) for the budget value, which is described by superior trust, the interaction of superior trust with subordinate involvement in decision making, and budget gaming. These results indicate that the superior trust variable and the interaction of superior trust with subordinate involvement in decision making have more predictive power for budget gaming than budget value.

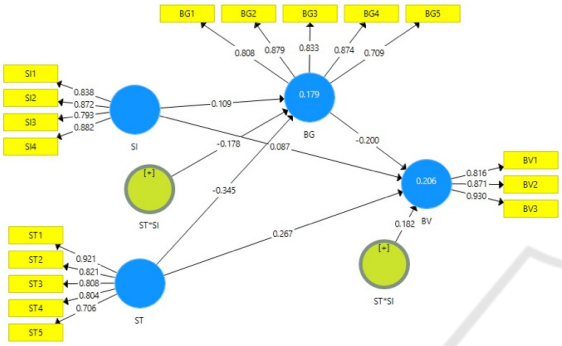


Figure 2: Path Diagram Model.

## 4.2 Hypothesis Testing Results & Discussion

### 4.2.1 The Effect of Superior Trust on Budget Gaming

The results of the path analysis between superior trust and budget gaming show negative and significant results, namely the value of path coefficient is -0.345; p-value 0.020. These results indicate that both the direction and the strength of the path coefficients for the effect of superior trust and budget gaming support **Hypothesis 1**. These results are in accordance with Libby and Lindsay, 2019 which state that superior trust has a negative effect on budget gaming. This means that the higher the trust of superiors in subordinates, the less the budget gaming behavior will be. The results also support the view of Olson et al., 2007, namely that high superior trust in the capability of subordinates will result in better respect and performance of subordinates.

### 4.2.2 The Effect of Superior Trust Moderated by Subordinate Involvement in Decision Making on Budget Gaming

The second tested hypothesis is that superior trust will be stronger in reducing budget gaming when being moderated by subordinate involvement in decision making. Figure 2 shows that the path coefficient of superior trust moderated by subordinate involvement in decision making on budget gaming is negative with a probability value (0.000) smaller than 0.01. Thus, it can be concluded that superior trust moderated by subordinate involvement in decision making has a negative and significant effect on the budget gaming. Since the p-value of 0.000 (hypothesis 2) is smaller than the p-value of 0.020 (hypothesis 1), it can be concluded that superior trust will be stronger in reducing budget gaming when being moderated by subordinate involvement in decision making (H2 is supported). These results support Libby and Lindsay, 2019 which state that trust has a negative effect on budget gaming. This means that the higher the trust, the lower the budget gaming that occurs in the company. The results also support Coletti et al., 2005, namely that competent and capable managers (subordinates) tend not to rely on fraud to achieve budget targets if there is trust in them. In addition, managers (subordinates) tend to understand the negative effect of the budget gaming, which is, to negatively effect their future rewards, causing them to act in a more collaborative and honest way.

### 4.2.3 The Effect of Superior Trust on Budget Value

Figure 2 also shows that superior trust positively and significantly affects the budget value, namely the path coefficient of 0.267; p-value of 0.010. These results support hypothesis 3a. In the budgeting process, budgeting involves complex decisions due to the ever changing competitive environment. This leads to the need for higher quality interactions between superiors and subordinates and demands increment in authority, shared responsibility, and greater involvement in decision making (Brower et al., 2009; Olson et al., 2007). The results are also in accordance with Libby and Lindsay, 2019 which show that superior trust has a significant effect on budget value.

### 4.2.4 The Effect of Superior Trust on Budget Value mediated by Budget Gaming

Hypothesis 3b which is being tested, is the effect of superior trust on budget value mediated by budget gaming. Figure 2 shows that the path coefficient of superior trust to budget value mediated by budget gaming is positive (path coefficient 0.069; p-value 0.028). Thus it can be concluded that the budget gaming mediates the effect between superior trust and budget value. **(**Hypothesis 3b is supported).

These results have the correlation with the previous findings, which show superior trust has a

negative effect on budget gaming (significant, H1 is supported) and the budget gaming has a negative effect on the budget value (path coefficient -0.200; p-value 0.017 is smaller than 0.05). This finding also supports Hair et al., 2014 that mediation is considered significant if all path coefficients are also significant. This result is also in accordance with Lewis and Weigert, 2012, that when the superiors' trust is high, subordinates tend not to take the risk of violating their superiors' trust by engaging in dysfunctional behavior. In addition, Libby and Lindsay, 2019 state that superior trust has a substantial impact, either directly or indirectly on budget value.

#### 4.2.5 The Effect of Superior Trust Moderated Subordinate Involvement in Decision Making on Budget Value

Figure 2 shows that the path coefficient of superior trust moderated by subordinate involvement in decision making (ST*SI) on budget value is positive with a p-value of 0.239. These results conclude that superior trust moderated by subordinate involvement in decision making has no effect on budget value (Hypothesis 4a is not supported). Although Hypothesis 3a is supported, namely that superior trust increases budget value, this relationship cannot be strengthened by subordinate involvement in decision making. This indicates that the possibility of the management's perception of the value / benefits of the budget is not related to whether or not subordinates are involved in the decision-making process.

#### 4.2.6 The Effect of Superior Trust Interaction with Subordinate Involvement in Decision Making on Budget Value Mediated by Budget Gaming

Hypothesis 4b which is being tested is the effect of the interaction between superior trust with subordinate involvement in decision making (ST*SI) on budget value (BV) mediated by budget gaming (BG). Figure 2 shows that the path coefficient of interaction between superior trust and subordinate involvement in decision making on budget value mediated by budget gaming is 0.035; p-value 0.084. Thus it can be concluded that the interaction of superior trust with subordinate involvement in decision making mediated by budget gaming is a significant effect on budget value (Hypothesis 4b is supported). These results have the correlation with the previous findings which support that the relationship between superior trust and subordinate involvement in decision making (ST*SI) on budget gaming (significant, H2 is supported) and the relationship between budget gaming and budget value is significant (path coefficient -0.200; p. -value 0.017). These results are in accordance with Spreitzer and Mishra, 1999; Olson et al., 2007, namely that high trust affects budget value by increasing the involvement / participation of managers in the budgeting decision-making process.

## 5 CONCLUSIONS

The results of this study concluded that first, superior trust has a negative effect on budget gaming; second, superior trust is stronger in reducing the budget gaming when moderated by subordinate involvement in decision making; third, Superior trust has a positive effect on budget value; fourth, the budget gaming mediates the relationship between superior trust and budget gaming; Fifth, budget gaming mediates the effect of the interaction between superior trust and subordinate involvement in decision making on budget value. The study results also concluded that although superior trust increases the budget value, if superior trust is moderated by subordinate involvement in decision making, it is not adequate in increasing the budget value.

The results of this study have significant implications for both theory and practice. First, subordinate involvement in decision making and superior trust are important components in budgeting and this study also provides an important understanding of how the two interact with dysfunctional behavior in budgeting. In particular, this study shows that superior trust is more effective at reducing budget gaming when moderated by subordinate involvement in decision making. Second, this study also enriches the budgeting literature, especially on budget value. The finding about budget gaming can mediate the relationship between superior trust and budget value provides an understanding of the importance of superior trust in increasing budget value because of its role in reducing the budget gaming. This study also provides an understanding that it is very important to involve subordinates and superior trust in designing a budget system which could overcome gaming behavior.

Third, these findings recommend that superior trust is very important, therefore, finding ways to increase superior's trust should always be an important agenda of a company, for example, through good recruitment and promotion practices, constructive and non-threatening feedback, training and mentoring programs, and others.

The study's plan also provides some future research opportunities. First, this study is limited to only a few variables, such as superior trust, subordinate involvement in decision making, budget gaming, and budget value. Further research can explore other variables that may affect budget value, such as budget based bonuses and budget emphasis; Second, this research uses a survey method, therefore the limitations of this method are most likely inherent in this study, for example the limitations in obtaining a representative sample and an unbiased sample. Future studies can use experimental methods to ensure the causal relationship between superior trust and subordinate involvement in decision making on budget gaming and budget value; Third, this study is supported by a relatively small sample of data, and this is likely to reduce the power of statistical tests. Therefore, future studies are suggested to expand the sample data.

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