EXPERIMENTAL STUDY: THE INFLUENCE OF PAY SCHEME AND PERSONAL VALUE TO BUDGETARY SLACK

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Abstract: This study tested the hypothesis developed by Hobson, et al. (2011), and aims to examine the influence of pay scheme and personal value to budgetary slack. This study uses the experimental method. Participants in this study are accounting program students who have completed three subject, management control system, budgeting, and management accounting. 35 people participated in the experiment and the data were analyzed using the Kruskal Wallis test. Results of this study indicate that the organization with a truth-inducing compensation scheme less tendency to commit budgetary slack, compared to organizations that implement slack inducing compensation schemes. While judged on the personal value of an employee, a person with high personal value tends not to commit budgetary slack, but the difference is insignificant when compared to a person with low personal value. The results of this study also show that if an organization implements a truth-inducing compensation to someone with high personal value, it will commit the least budgetary slack. Some of the results of this study support the hypothesis developed by Hobson, et al. (2011), but there is one hypothesis that is not supported because the compensation scheme applied in the firm is more dominant in influencing the implementation of budgetary slack.

Keywords: Pay Scheme, Personal Value, Budgetary Slack

In general, organizations both small and large scale, require a management control system that ensures the achievement of organizational goals effectively and efficiently. According to Langevin and Mendoza (2013), management control systems can reduce unethical managerial behavior. One important tool in the control system that can be used by management to harmonize the goals of an organization is budgeting (Hansen and Mowen, 2013). Budgeting is important because there are two elements in it, namely how the budget is made, and how the budget is implemented as an organizational plan (Hansen and Mowen, 2013). The first element relates to the budgeting mechanism. The second element relates to how individuals react to the budget system in the company. In the budgeting process, there are parties involved, so it needs to be considered. The parties in question are the principal (boss) and agent (subordinate).

The importance of budgeting causes the role of subordinates in budgeting (participatory budgeting) to be very important. Budget participation is a budgeting approach that allows managers who will be responsible for budget performance to participate in the budgeting process (Hansen and Mowen,
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According to Anthony and Govindarajan (2014), budget participation is the most effective budgeting process because it integrates the two drafting processes, namely top-down and bottom-up. According to Hansen and Mowen (2013), many factors influence the behavior of a subordinate in the preparation of a budget. Subordinates will behave positively if the subordinates’ personal goals are in accordance with the goals of the organization and they have the drive to achieve them. This is called goal congruence. Subordinates will behave negatively when the budget is not properly administered so that subordinates can deviate from the goals of the organization. This dysfunctional behavior is behavior that is contrary to the overall goals of the company, as well as the tendency to create slack or slack in the budget.

Budgetary slack results in the function of the budget being used as a measuring tool for assessing managerial performance not to function properly, because the set budget cannot reflect the actual capabilities possessed by lower-level managers. Another problem due to the occurrence of budgetary slack is that it can affect the budgeting process in the next period so that the company’s budget is not optimal until the next because the budget in a period will affect the budget in the next period. Budgetary slack arises when a manager estimates low income or raises costs deliberately (Hansen and Mowen, 2013). Budgetary slack causes a moral dilemma. Research shows that someone who does budgetary slack is an unethical person. With the existence of moral judgment, it turns out that it can reduce slack on a budget (Hobson, et al., 2011). Moral judgment consists of pay schemes and personal values (Hobson, et al., 2011). In budgetary slack problems often associated with pay schemes. From an organizational perspective, pay schemes are a means to motivate individuals to improve their performance. The company believes that the existence of a system of providing incentives will be able to influence the performance or work performance of each (Puspita, et al., 2014).

From the results of previous studies that have been conducted also show that a well-designed pay scheme by management will minimize the chance of budgetary slack. Other factors that influence the occurrence of budgetary slack are internal factors, namely personal value. Personal value affects the consideration of moral reasoning which causes a person to respond differently to various conditions (Hobson, et al., 2011).

The high and low personal values a person has will affect the size of the slack that occurs. This is because individuals tend to think about their interests without caring about the effects of these behaviors. A large number of studies related to these factors assume that budgetary slack is still seen as something unethical, this is a point, as well as important reasons why research is still being carried out related to budgetary slack (Efrilna, 2018).

**HYPOTHESIS DEVELOPMENT**

**Effect of Pay schemes on Budgetary Slack**

According to Riswandari (2004), slack-inducing pay scheme is a compensation in the form of a fixed salary and added with a bonus. When subordinates can achieve actual performance that exceeds the planned budget target, a bonus will be added. The truth-inducing pay scheme is compensation where the company only pays compensation at a predetermined level. Under these conditions, subordinates will tend to recognize the productivity that they have achieved because the company will pay only at a predetermined level. Consistent with Hobson, et al. (2011), which showed that participants who did the slack-inducing payment scheme tended to slack than participants who made payment schemes using truth-inducing. Stevens’s (2002) study shows that the slack-inducing pay scheme, in practice, encourages subordinates to do budgetary slack by reducing production targets and increasing production realization to get bonuses for performance that exceeds the budget.

H1 : Subordinates who compile budgets using slack inducing payment schemes tend to do budgetary slack rather than subordinates who make budgets by using truth-inducing payment schemes.
Effect of Personal value on Budgetary Slack

Personal value affects the consideration of moral reasoning which causes individuals to respond differently to various situations. According to the results of research by Hobson, et al. (2011), subordinates who have traditional values tend to assume that the act of budgetary slack is a less ethical action. Thus, subordinates who have traditional high values tend to avoid budgetary slack. Hurlock (2000), reveals that empathy is a person’s ability to understand the feelings and emotions of others and the ability to imagine themselves in other people’s place. Responsibility according to Zuchdi (2015), is an attitude and behavior of an individual in carrying out their duties and obligations, both the duty to God Almighty, the state, the environment, and society and himself. Research Lunadewi and Erawati (2016), shows that personal value has a positive influence on budgetary slack. One of the results of research by Hobson, et al. (2011), shows that the greater slack is created when someone has personal values that tend to prioritize personal interests.

H2 : Subordinates who have low personal value will tend to do budgetary slack in budgeting compared to subordinates who have high personal value.

Effect of Pay scheme and Personal value High on Budgetary Slack

Concerning budgetary slack, personal value is considered to influence the potential for slack in the budget. This is in accordance with Hobson, et al. (2011), who found that the influence of personal value on budgetary slack was very high. If someone has a high personal value, he tends not to see pay schemes (slack inducing or truth-inducing) in compiling a budget. In this study the amount of compensation to be received by subordinates, using the slack inducing method and truth-inducing methods. Research related to truth-inducing payment schemes was first examined by Kaplan and Atkinson (1998), using the system “The New Soviet Incentive Model”, namely the payment scheme as a standard in expressing the potential that can be achieved by subordinates. According to Kaplan and Atkinson (1998), subordinates tend to do lower budgetary slack if the boss compensates with the truth-inducing method. Consistent with Hobson, et al. (2011), which showed that participants who did the slack inducing payment scheme tended to slack than participants who made payment schemes using truth-inducing, it was also found that personal value directly affected the occurrence of budgetary slack. The higher the level of personal value a person has, the lower the budgetary slack will be. In this case, someone who has a high personal value tends to motivate themselves to take actions that do not violate the rules or commit fraud.

H3 : Subordinates who have high personal value with truth-inducing pay scheme will do the lowest budgetary slack.

METHOD

The design of this study uses a factorial 2x2 between subject. This test uses factorial 2x2 because this study uses two independent variables, namely pay scheme (slack inducing and truth-inducing) and personal values (values of responsibility, empathy values, and traditional values). Tests were conducted to investigate the effect of these two independent variables on budgetary slack between groups of subjects who were given different treatments. Researchers manipulate personal values into two levels of personal value levels. Those conditions are low personal value and high personal value. This research is used to find out whether the slack inducing pay scheme and truth-inducing affect the budgetary slack. Participants used in this study were undergraduate Accounting students at one of the universities in Malang who had passed the course in Management Accounting, Management, and Budgeting Control Systems. These criteria were chosen because students who had passed or were taking one of the three courses were considered to have sufficient knowledge related to budgeting and problems regarding budgetary slack.

The method used in this study is the experimental method using treatment and case manipulation on the subject of the study. The data collection technique in this study is the response of participants/respondents. Participants are asked to write
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the results of production assignments 1 to 3. After the data has been collected, the data will be tested using the Kruskal Wallis test.

**Variable Measurement**

Slack variable measurement inducing pay scheme uses the formula for calculating the slack inducing or fixed pay compensation scheme plus bonus based on Fisher, et al. (2002) and Stevens (2002), as has been done by Nugrahani and Sugiri (2004) and Nugrahani (2005), by modifying monetary units that are in accordance with the conditions in Malang, as follows.

\[
P = \begin{cases} 
Rp10.000 + \{Rp1.000 \times (A-B)\}, & \text{if } A > B \\
Rp10.000, & \text{if } A \leq B 
\end{cases}
\]

Whereas the company’s compensation payment scheme using a truth-inducing pay scheme is a company that only pays compensation at a predetermined level.

\[
P = \begin{cases} 
Rp10.000 + (Rp1.000 \times A), & \text{if } A = B \\
Rp10.000 - \{Rp1.000 \times (A-B)\}, & \text{if } A > B \\
Rp10.000 - \{Rp1.000 \times (B-A)\}, & \text{if } A < B 
\end{cases}
\]

**Information:**
- \(P\) = Total compensation received by each subordinate;
- \(B\) = Budget or production target proposed by subordinates;
- \(A\) = The actual amount of production produced by subordinates;
- IDR 10,000 = Fixed salary received by subordinates;
- Rp1,000 = Bonus per unit.

The researcher provides a treatment whereby participants will be given information about themselves as if they have a low personal value to measure a person’s value. And conversely, participants will be given information about themselves as if they have high personal value.

Measurement of budgetary slack is measured by calculating the actual production difference with the production target then divided by expected performance (Stevens, 2002). The calculation formula for budgetary slack and expected performance is as follows.

\[
\text{Budgetary slack} = \frac{\text{Production result}3 - \text{Production target}}{\text{expected Performance}}
\]

In research, budgetary slack is measured using the formula above where the results of production assignments 3 that can be done correctly by participants are reduced by the production targets determined by the participants. These results will be divided by expected performance. Expected performance is the result of assignments 1 and 2 that are performed correctly by participants. The production task given is in the form of an instrument used by Drake, et al. (2007), in Puspita, et al., (2014).

\[
\text{Expected Performance} = \frac{\text{Production result 1} + \text{Production Target 2}}{2}
\]

**RESULTS**

The results of the manipulation check showed that the number of participants was 39 people, 4 participants did not pass the manipulation check. So that, the total participants who fulfilled the requirements to pass the manipulation check test were 35. The percentage of participants who passed the manipulation check test was 89%. Of the number of
participants who qualify, if grouped by pay scheme there will be 17 participants with the slack inducing pay scheme, and 18 participants with truth-inducing pay scheme. If grouped based on personal value, the participants who received a high personal treatment value of 18, and 17 participants with a low personal treatment value.

The fact that the 2x2 design shows the level of budgetary slack carried out by each category in the cell. The higher the value in the cell, the higher the level of budgetary slack carried out by that category. Likewise, vice versa, when the value in the cell gets lower, then the budgetary slack carried out by that category will be lower. Total budgetary slack by using truth-inducing pay schemes that is equal to 0.305. While the total budgetary slack if using slack inducing pay scheme that is equal to 13.230. Thus, from the total average budgetary slack of the two pay schemes it can be stated that a larger budgetary slack occurs when using slack inducing pay scheme with a value of 13.230, the difference between budgetary slack between the slack inducing pay scheme and truth-inducing pay scheme is 12.925.

Total budgetary slack when a subordinate has a high personal value of 3.871. While the total budgetary slack if someone has a low personal value that is equal to 9.663. Thus from the total average budgetary slack when a subordinate has a high personal value and a low personal value, it can be stated that a larger budgetary slack occurs when a subordinate has a high personal value with a value of 9.666, so that the personal value is high one can minimize the occurrence of budgetary slack. The difference between budgetary slack between high personal value and low personal value is 5.792.

This study uses the Kruskal Wallis test which is a non-parametric test as an alternative to the ANOVA test if there are assumptions that are not fulfilled Anova, in the context of this study the assumptions that are not met are normality. Output ranks are used to see the average order of each category. In this table only two categories will be seen, that is slack inducing and trending inducing pay schemes. It can be seen that the average of the truth-inducing pay scheme category is 11.53 with the number of participants as many as 18. The category with slack inducing pay scheme is 24.85 with the number of participants as many as 17. These results indicate that the average slack inducing pay scheme is higher than truth-inducing pay scheme with a difference of 13.32. From the difference must be seen again whether the difference is significant or not, to see the level of significance of differences between categories, it can be seen from the p-value, if the p-value is less than 5%, then the difference can be said to be significant. From the output of the test statistic, it can be said that the difference from slack inducing and truth-inducing pay scheme is significant because the p-value is 0.00.

Table 1  Kruskal Wallis Test Statements

| Test Statistics | Budgetary slack |
|-----------------|-----------------|
| Chi-Square      | 16,369          |
| df              | 1               |
| Asymp. Sig.     | .000            |

Source: Data processed, 2018

Table 2  Kruskal Wallis Test Statements

| Test Statistics | Budgetary slack |
|-----------------|-----------------|
| Chi-Square      | 1,159           |
| df              | 1               |
| Asymp. Sig.     | .282            |

Source: Data processed, 2018

In this table, we will see two categories: high personal value and low personal value. It can be seen that the number of participants who received high personal value treatment was 18 with an average of 16.28. The low personal value category participants were 17 with an average score of 19.82. These results indicate that the average personal value is lower than the high personal value with a difference of 3.54. From the difference obtained the p-value of 0.282. Because the p-value is greater than 5%, it can be said that the difference from
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Output ranks are used to see the average order of each category. It can be seen that the average of the truth-inducing pay scheme category with high personal value produces an average value of 10.50. The category with a truth-inducing pay scheme and low personal value has an average of 12.56. The category of slack inducing pay schemes with high personal value earned an average of 22.06. The last category, namely slack inducing pay scheme with low personal value, obtained an average of 28.00. Of the four categories, the category that had the highest average value was a category with low slack inducing pay schemes and personal value. While the lowest average in the category of truth-inducing pay scheme with high personal value.

The test statistic output was used to see the difference between categories compared and the level of significance of differences between categories. The difference between categories can be seen in the chi-Square value of 18.147. The greater the chi-square value, the greater the difference between the categories compared. Whereas to see the level of significance of differences between categories, it can be seen from the p-value, if the p-value is less than 0.05, then the difference can be said to be significant. From the test statistic output, it can be said that the differences from the four categories compared are significant because the p-value is 0.00.

DISCUSSION

Hypothesis 1 is that subordinates who compile the budget by using slack inducing tend to slack rather than subordinates who compile the budget using truth-inducing are accepted or supported because the significance of the difference between the truth-inducing and slack inducing categories is 0.000 so the difference is very significant. The results of this study support the research conducted by Hobson, et al. (2011), which shows that participants who do slack inducing pay schemes tend to slack significantly than participants who accept truth-inducing pay schemes. Therefore there is a significant difference in the value of budgetary slack between respondents who get the slack inducing pay scheme and truth-inducing. Slack inducing affects the increase in budgetary slack higher. Meanwhile, on the truth-inducing effect the decrease in budgetary slack is lower. This is because in the slack inducing payment scheme there are bonuses given to subordinates if the actual performance exceeds the proposed target.

Hypothesis 2 in this study is that subordinates who have a high personal value will do a budgetary slack lower than those who have a low personal value not supported by the results of this study. It can be seen from the significance value of the difference between the high personal value category and the low personal value which is above 5% which is equal to 0.282 so that the difference is not significant. Then it can be said that in this personal study value has an influence on the budgetary slack, but it is not significant. This is indicated by the difference in the value of budgetary slack at the mean rank value of someone who has a high personal value tends to be lower in doing budgetary slack compared to someone who has a low personal value.

Factors that influence a person to commit fraud are influenced by personal values, including the values of tradition, empathy, and responsibility (Hobson, et al., 2011). Someone who has traditional values of low values of empathy and responsibility tends to have attitudes that tend to prioritize self-interest. So that, in the budgeting process, it will lead to higher budgetary slack, because the individual will think about his interests regardless of the impact of the behavior. With the higher value of empathy, the traditional value of one’s responsibility, it can minimize the occurrence of budgetary slack. Another
factor that causes a high and low personal value difference cannot minimize budgetary slack significantly is that in doing its work, everyone who has a high or low personal value certainly wants maximum incentives. This incentive is obtained based on the pay scheme implemented in the company. So even though subordinates have high or low personal values, they will set targets and production carefully according to the pay scheme implemented by the company, to get a bonus.

Hypothesis 3 is supported, this can be seen from the mean rank value of the category of truth-inducing pay scheme with high personal value shows a value of 10.50. This category is ranked first in minimizing budgetary slack, with a significance value of 0.000 which means that truth-inducing with high personal values has a significant difference compared to other categories. This shows that companies that implement truth-inducing with high personal value will do the lowest budgetary slack compared to other categories. It can be said that a subordinate tends not to do a budgetary slack because it is more influenced by the existence of a pay scheme implemented by the company, especially a truth-inducing pay scheme. High personal value influences minimizing the occurrence of budgetary slack but is not significant, even small. The reason is that the more dominant factors in determining the occurrence of budgetary slack is the pay scheme that is applied in the company. While personal value only affects the maximization of the target and the realization that will be achieved.

Implications

Overall, from the results of this study, there are two supported hypotheses, while 1 hypothesis is not supported. Two hypotheses that are accepted or supported are hypothesis 1: Subordinates who compile budgets using slack inducing pay schemes tend to slack than subordinates who compile the budget using truth-inducing pay scheme, hypothesis 3: Subordinates who have high personal value with truth-inducing pay scheme will do the lowest budgetary slack. If it is associated with the plan of behavior theory, budgetary slack is an unethical action caused by individual attitudes and behavior in preparing a budget. The attitude of individuals who have good personal values will be able to reduce budgetary slack, and vice versa. The individual attitudes vary because they are limited by the pay scheme implemented by the company.

Based on the results of the study it can be concluded that the pay scheme in the company is very necessary or very important to note so that every organization can minimize the occurrence of budgetary slack. Therefore, every organization in determining the system or pay scheme for subordinates can be more careful, whether the pay scheme is set effective and efficient for the organization and can reduce the occurrence of budgetary slack.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

This study aims to develop research conducted by Hobson, et al. (2011), by testing the effect of pay schemes and personal value on budgetary slack. Hypothesis testing results The existence of a significant influence on the pay scheme is through a case of slack inducing and truth-inducing pay scheme against budgetary slack. Slack inducing affects the increase in budgetary slack higher. Meanwhile, truth-inducing affects the decrease in budgetary slack that is lower. It was also found that personal values in which there are traditional values, empathy values, and values of responsibility did not significantly affect the occurrence of budgetary slack. That happened because everyone would want to get the maximum bonus, so it depends on the pay scheme implemented by an organization. If a company applies a truth-inducing pay scheme, then even if subordinates have a high personal value they will set targets carefully so that the production that produced can be in accordance with the set targets. Someone who has a low personal value will also do that, but the difference is if the subordinates have high personal value, then the target and the determined production will be in accordance with their maximum abilities. If subordinates have low personal value, the target and production specified will not be in accordance with their maximum capabilities.
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**Recommendation**

The use of more complex scenarios that are made in accordance with more tangible circumstances in the field will bring more objective research results. Future research should be carried out by using lower-level manager participants who are truly directly involved in the participatory budgeting process. To develop this research, the limitations of this study can lead to suggestions for further research. Further research should present the design of experimental cases more interestingly, not only in the form of a questionnaire containing cases of treatment. This aims to improve the accuracy of the treatment and the results of the research obtained. For example, by conditioning participants in treating conditions that occur in separate places for each treatment group. Further research can also test the problem of budgetary slack by adding moderating variables such as environmental uncertainty, organizational culture, the locus of control, and others.

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