



# The Effect of Superior's Reputation and the Need for Achievement Character on Budgetary Slack: An Experimental Study

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## Abstract

The purpose of this study is to examine the role of the superior's reputation and the character of subordinates referred to as need for achievement (NFA) toward budgetary slack. We employed experimental method with a factorial design of 2 (superior reputation) x 2 (need for achievement). Hypothesis testing was conducted using two-way ANOVA. By using as many as 78 accounting and management students as experimental participants, the results prove that subordinates who have superiors with favorable reputations tend to create a lower slack than those who have superiors with unfavorable reputations. Meanwhile, if a subordinate has a high need for achievement character, then the subordinate will tend to create a higher budgetary slack. Further, this study shows that budgetary slack tends to be created by subordinates with high need for achievement characters can be lowered if they get a favorable superior than an unfavorable one.

**Keywords:** budgetary slack; need for achievement; superior's reputation

## INTRODUCTION

Budgeting is one of the mechanisms that plays an important role for organizations, for instance as a management tool that is used the most for strategic planning, facility management tasks, and control (Kung Fan-Hua et al., 2013). There are at

least two aspects that are often seized as main investigations related to budgeting, i.e accounting performance measurement Hartmann (2000) and issues of participative budgeting (Brownell & Dunk, 1991). This opinion is consistent with the research of Brown et al. (2009), which states that

participative budgeting represents one of the most extensive topics in experimental research in management accounting, because participative budgeting is very commonly used to increase efficiency in the resource allocation process, especially in companies with decentralized systems (Libby & Lindsay, 2010; Shields & Shields, 1998).

Participative budgeting utilization can be detrimental to a company when the goals of subordinates are not aligned with organizational goals, which allow subordinates to misstate private information and create slack in budgeting (Baiman, 1990; Rankin et al., 2008). Meanwhile, a research by Dunk and Nouri (1998) explains that the creation of slack that arises from participative budgeting is not only determined by one factor, but it is a combination of various factors, both internal and external. One of the internal factors that can influence individual behaviour is the aspect of religiosity which has been found by Prayudi and Dharmawan (2018) and self-efficacy (Abdullah & Brink, 2017). Other than that, internal factor in the form of motivation also predicted to have impact on budgetary slack behavior is the need for achievement, which occurs when conditions allow individuals to maximize bonuses by

doing a budgetary slack (Chong & Ferdiansah, 2012). Meanwhile, external factors can be related to organizational conditions or environment, which have the potential to minimize slack, such as control mechanisms, both formal or informal, in the form of reputation from the leaders or superiors (Davidson & Stevens, 2013).

Literatures in management accounting have tested empirically about the types of control systems that can be used to reduce budgetary slack (Covaleski et al., 2003). However, most of the previous research focused more on formal controls to reduce budgetary slack like ethical climate, peer monitoring control systems, pressure (Apriwandi & Pratiwi, 2019; Chong & Sudarso, 2016; Fisher et al., 2007; Staley & Magner, 2007; Narsa & Supriyadi, 2019). There are still relatively few research on informal control as a way to prevent opportunistic behaviour, although basically every type of control is an important mechanism for organizations (Chong & Loy, 2015). The difference in the intensity of the use of control mechanism can raise the question of whether informal control can function as a complement to or as a substitute for formal control mechanisms (Chong & Ferdiansah, 2011; Rankin et al., 2008). Thus, this

study aims to discuss the importance of the role of informal control in the form of the reputation of the leader or superiors by reexamining its effect on budgetary slack. In addition, this study will also interact the internal motivation factors of individuals, specifically need for achievement that can lead to opportunistic behaviour with the role of informal control to control the tendency of creating budgetary slack.

The empirical results indicate that superior's reputation has an important role as a control mechanism that has the function to reduce budgetary slack. Subordinates who get superiors with favorable reputations tend to create lower budgetary slacks compared to when they get superiors with unfavorable reputations. In addition, internal factors also become determinants of the high or low budgetary slack. Subordinates with a high need for achievement (NFA) character relatively produce higher budgetary slack than subordinates who have low need for achievement characters. This study also succeeded in proving that there is an interaction between internal and external factors, favorable reputation from a superior can play a role as a factor that can control the potential for opportunistic behavior of

subordinates with high need for achievement characters.

This study has several contributions to budgetary slack research. First, this study successfully extends the budgetary slack topic by proving the interaction between the superior's reputation and the NFA character creating budgetary slack by including literature related to psychological and cultural aspects. This study's interaction effect confirms the role of superior reputation previously studied by Chong & Loy (2015) in controlling subordinates from committing slack due to extrinsic motivation (payment schemes, bonuses). Subordinates can be motivated to slack because of an external urge, such as subordinates must set targets that are easy to achieve to get rewards. This external encouragement can then be conditioned so that subordinates are not trapped in opportunistic behavior, namely by reaffirming the superior's influence as an informal control. Second, the role of the superior's reputation in limiting the occurrence of slack can be more optimal because of environmental factors, such as cultural elements studied by Hofstede (1984) and House et al. (2004) such as high power distance culture that will induce subordinates to pay attention to superiors direction.

In a sequence, the remaining part this study will describe the literature review and hypothesis development. Then continued with research methods, results and discussion. Lastly, conclusion along with future research will close this article.

## **LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### **Budgetary Slack**

Budgetary slack is a topic that is frequently discussed from an organizational and behavioral point of view. Baiman and Evans (1983) describes budgetary slack as a form of deviation between actual conditions and standards that are deliberately carried out. Lau and Eggleton (2000), Nouri and Kyj (2013) defines budgetary slack as reducing subordinates' actual ability to prepare the budget. Since budgetary slack is an issue that is currently still occurring in business practice and is being researched, numerous studies on budgetary slack have focused on understanding the causes of slack and ways to minimize it.

Maiga and Jacobs (2007) used agency theory to explain budgetary slack, that is, agents have private information that the superior does not know so that agents can propose a budget according to their interests.

Chong and Ferdiansah (2012) suspect that the agency problem in budgeting is a moral hazard. The agent has private information about their actions that their leader is not known, which provides opportunities for subordinates to behave opportunistically.

The difference in subordinates and superiors' information creates a greater opportunity to create slack, especially if subordinates with high NFA characters will be more motivated to maximize bonuses obtained by hiding important information. As Dunk and Nouri (1998) emphasize in their study, one of the factors that issue from motivation theory is the need for achievement to lead to slack in an organization. Achievement-oriented individuals tend to prefer responsibility for individual achievement, challenging tasks, and calculating risk based on the probability of success. Therefore, the individuals will take a low risk if there is a possible future reward, a moderate risk when there is an opportunity for achievement, and make every effort to do the task with the highest probability of individual success and achievement (Riahi-Belkaoui, 2002).

Kohlmeyer and Hunton (2004) suggest that participative budgeting is a way to minimize slack because it

allows superiors to design subordinate contracts that aim to align goals and provide incentives so that subordinates do not hide their true capabilities. Chong and Loy (2015) also emphasize that the reluctance theory becomes an explanation that superior needs to take specific steps, for example, participative budgeting. This explanation can at the same time mean that superior can play a role as part of the control mechanism, one of which is by creating a good reputation, becoming a valued leader so that the superior can have more complete information from subordinates and the opportunity for the creation of slack can be minimized.

### **Superior's Reputation and Budgetary Slack**

Previous research by Gago-Rodríguez and Naranjo-Gil (2016) found that the more middle managers trust their superior, the more effort they commit to budgetary proposals. In similar vein, superior who has a favorable reputation can stimulate subordinates to have more confidence in their superiors. Subordinates feel that they have a role model and believe that their superiors will also act according to the norm. Where this trust can mitigate agency problems. In the context of budgeting, trust in

superiors can be an incentive for subordinates to be able to provide information, because subordinates also believe that their superiors will do the same, and this can reduce the opportunistic actions of subordinates (Fisher et al., 2007; Naranjo-Gil & Hartmann, 2006). This is in line with Chong and Loy (2015) research which proposes the factor of superior's reputation as one of the controls to prevent opportunistic behavior, and defines superior's reputation used in research on budgetary slack as:

*"Perceptions from subordinates about the level of attributes possessed by superiors, including expertise, experience, fairness, integrity, honesty, and trust"*

Based on this definition, it can be seen that superior's reputation is a general attribute that reflects the extent to which the superior's reputation is seen as a favorable or unfavorable. This category refers to several studies that explain the reputation of superiors, for example, research from Grover (2005); Latham and Saari (1979) concluded that a superior with a favorable reputation shows quality leadership, while an unfavorable reputation can be judged by low leadership qualities. The importance of the role of reputation in budgeting is also evidenced by Webb (2002) who found that participants created a lower budgetary slack when

budget reliability could affect reputation.

Apart from the factor of leadership as a determinant of reputation, Webb (2002) also explains that responsibility related to the budgeting process can also act as a determining factor for a person to maintain their reputation. Reputation factors and other social factors are also closely related to superior's motivation to carry out audits or investigations, and these factors can be the determinants for subordinates to reduce slack (Arnold & Schreiber, 2013). These characteristics can be perceived by subordinates as an impossible condition to create budgetary slack.

Reputation can also be viewed as a social aspect, where reputation can act as social control. One of the ways to demonstrate this compliance is by enhancing or maintaining a reputation for being fair and responsible. The role of reputation as social control can be strengthened from the cultural dimension described by (Hofstede, 1984) concerning case, in Indonesia, the power distance dimension has a high enough score, where the leader is highly valued, plus when the leader has a good reputation, the subordinates will be more obedient by not slacking. Therefore, a hypothesis stating that

the superior's reputation can act as an informal control that can prevent the possibility of creating budgetary slack by subordinates can be proposed.

H<sub>1</sub>: The subordinate will create a lower budgetary slack when the superior's reputation is perceived as favorable rather than when it is perceived as unfavorable.

### **Need for Achievement and Budgetary Slack**

Dunk and Nouri (1998) research on budgetary slack puts forward a proposition stating that need for achievement is one of the factors that contribute to the creation of slack, by moderating participatory budgeting and budgetary slack. Need for achievement can be expressed as the need to carry out something that is considered important according to certain standards that has a different level for each individual (Steers & Spencer, 1977).

When connected with the context of agency, individuals with low need for achievement tend to not be motivated to maximize their benefits, whereas individuals with high achievement needs are assumed to be more motivated to achieve their goals with satisfactory predicates (Chong & Ferdiansah, 2012). The objectives referred to here are like bonus

payment schemes or performance indicators. To get a high bonus and a good performance appraisal, someone with need for achievement will make any efforts, one of which is through the creation of slack in the budget, due to the lack of an adequate control system (Chong & Ferdiansah, 2012). In line with achievement theory, individuals will behave in an achievement-oriented manner when in situations that allow them to strive to achieve certain standards, use their skills, and improve their performance (Riahi-Belkaoui, 2002).

Subramaniam et al. (2002) investigates that the need for achievement can be a supporting factor in increasing participative budgeting because NFA is a character that shows an individual's struggle to achieve his goals, performed by increasing his involvement in the organization. An individual desire to achieve specific goals can be driven by extrinsic motivation, or the presence of external drives such as bonuses that can be obtained when completing a task (Wong-On-Wing et al., 2010). Furthermore, subordinates with high NFA can be more motivated to get rewards, more noticeable, subordinates will tend to create slack.

H<sub>2</sub>: Subordinates with a high level of need for achievement tend to create a higher budgetary slack

than subordinates with a low level of need for achievement

### **The Interaction Between Reputation and the Character of Need for Achievement**

The creation of slack can occur due to various things, both internal and external factors. Internal factors are related to individual characters, such as individuals with high NFA characters who can be encouraged to behave opportunistically to achieve their goals. This practice can also occur due to external factors that can determine slack, that is the lack of a control system that can monitor how a person behaves in carrying out their duties. For example, in the context of budgeting, superiors do not have sufficient information to assess the budget proposed by subordinates, nor do they have the sufficient information to evaluate the performance of subordinates (Chong & Ferdiansah, 2011).

As explained in the previous section, control mechanism can be in the form of informal controls such as superior's reputation. The control mechanism that is manifested as a superior's reputation is essential to consider in creating a conducive budgeting climate, as superior's reputation is thought to have implications for subordinates, for

instance Arnold & Schreiber (2013) explains the relationship between reputation and a decrease in budgetary slack, for instance information on the background of superiors allows them to gain a reputation as strict supervisors and can reduce slack, superior can pressure subordinates not to create slack by conducting audits to enforce norms, and investigating subordinates' behavior that is not in accordance with norm.

Reputation owned by a superior, especially a favorable one, can encourage subordinates to act in accordance with the ways or be consistent with the behavior of the superior, while an unfavorable reputation may not motivate subordinates to act in accordance with social norms or organizational goals (Chong & Loy, 2015).

Subordinates with a low NFA character tend to be unmotivated to take certain actions to acquire the reward, while subordinates with a high NFA are more likely to behave opportunistically to achieve the maximum reward when the subordinates are not supervised by his superiors, since the superior is considered not to know whatever his subordinates were doing (Chong & Ferdiansah, 2012). However, this will be different if a subordinate with a

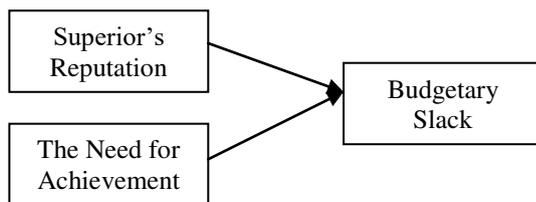
high NFA character has superior with favorable reputation, always controls and supervises subordinate's performance, thus the possibility of slack is limited.

Moreover, the influence of superiors on subordinates can be strengthened from the aspect of the cultural dimension from the results of Hofstede (1984) study. Indonesia is a country with a collectivist culture, high power distance, high uncertainty avoidance. Superiors that have a favorable reputation will be increasingly valued by their subordinates and can use their power to direct subordinates not to act that can harm the organization so that subordinates will tend to follow directions from their superiors, even though subordinates have a high NFA character, and they stay within an environment that does not desire slack, such as a collectivist culture, or a reputable leader with good leadership, then they will reconsider when they are going to act opportunistically in preparing a budget so that they will act following the expectations of their environment to be recognized as part of the organization.

Therefore, it can be predicted that subordinates with a high level of need for achievement tend to reduce the budgetary slack if there is a

superior with a favorable reputation who can act as an informal control mechanism in the organization.

H<sub>3</sub>: Subordinates with a high level of need for achievement will create a lower budgetary slack when their superior has a favorable reputation than when the superior has an unfavorable reputation



**Figure 1. Empirical Research Model**

## METHOD

### Experimental Design

This study employed an experimental method with a factorial design of 2 (superior reputation) x 2 (need for achievement). Meanwhile, the need for achievement was measured and then categorized into two types: individuals with high and low levels of need for achievement based on the average value. Two-Way ANOVA were used to test hypotheses 1,2 and 3. Experiment participants consisted of undergraduate students majoring in Accounting and Management. The total number of participants for each cell was 20, 20, 19, and 19 participants, thus a total of 78 participants in the experimental

study were obtained, but only 71 participants passed the manipulation check. The selection of participants from undergraduate students was based on the consideration that students were assumed to have sufficient knowledge to play the role of managers in terms of behavioral aspects, where students can also position themselves as managers to conduct tasks related to information processing and decision making (Ashton & Kramer, 1980; Douglas Clinton, 1999). To ensure that participants had adequate knowledge, the researcher determined certain criteria, whether having taken or understanding certain subjects such as budgeting, management accounting, performance measurement, so that it can be predicted that they already understood the budgeting process and management decision making. The experimental procedure includes four stages:

- 1) Pre-experiment is the session before the experiment is carried out to determine the NFA value for each participant. At this stage, participants are asked to fill out the NFA questionnaire. The questionnaire is assessed and categorized as high or low based on the average NFA score. Participants who obtained NFA scores above the average were classified as

high NFA while participants with NFA scores below the average were categorized as low NFA. At the time of experimenting, participants were grouped according to their NFA values, that is high and low, and carried out a series of experimental assignments including obtaining a scenario about superior reputation at random, whether favorable or unfavorable.

2) Session one: overview of the task, practice, and trial run. In this session, participants were grouped into participants with high and low NFA. According to the experimental treatment for superior reputation, both groups were assigned randomly according to the superior reputation comprised of favorable and unfavorable reputation. Hence, there will be high NFA participants who get favorable reputation or high NFA with unfavorable reputation, as well as for low NFA participants. Information about the superior's reputation includes a brief profile of the superior and a short interview with one of the magazines. This information will be obtained by participants after completing a series of tasks in session two.

Before working on decoding task, participants will be notified that their role as production manager of a company and is responsible for

preparing the budget, which will be evaluated by the superior. The aim of this assignment was to determine the performance of participants and to ensure that participants understood the decoding task, which was to convert a series of letters into numbers and then add up the numbers. The decoding task was a representation of the subject's production activities. Each participant was given a booklet containing a description of the assignment, an answer sheet, and an attachment to the decoding key. Before doing the actual task, participants were asked to practice doing the assignment first in a trial run session for 5 minutes. Participants were given two types of code: code type A and type Z and were given the freedom to choose which type of code to work with. Participants were asked to complete the code by adding the numbers for each code manually. Every successful decoding task done correctly, participants will receive a score of 5 points for type A and 10 points for type Z. These points represented the employee's performance capabilities and were used by participants as a basis for developing budget targets. The total score that the participants earned was used as an estimate of the participant's production level (performance capability). At the end of

session one, participants were asked to determine the best estimate of the bonus points that was expected to be achieved in the future (next session) based on the total score earned in this session.

### 3) Session two: budget preparation

In session two, participants were given explanation about the inducing pay scheme. The scheme was in accordance with the conditions of budgetary slack, using the concept of maximizing the compensation of budget compilers as explained to the participants, and it was predicted that participants would act according to the theory, and created a budgetary slack. The slack inducing payment scheme used was:

Payment scheme  
= IDR 50.000 if  $A \leq B$  (1)  
= IDR 50.000 + (IDR 20.000 (A-B)),  
if  $A > B$  (2)  
A = actual performance  
B = budget amount

Equation 1 shows a fixed payment scheme where a fixed salary of IDR 50,000 will be awarded when the participants' actual performance is less than the target (budget) (B), which was proposed. Conversely, if the actual performance (A) exceeds the budget (B), the employee will receive an additional bonus of IDR 20,000. After obtaining information on the payment scheme, participants were asked to read the brief information

about their superior's reputation carefully. Then the participants were directed to decide what budget (the best estimate of bonus points) will be submitted to the superior, by considering incentive payment scheme and superior's reputation.

4) The last session, participants were asked to answer one manipulation check question. Participants must identify whether they had a favorable or unfavorable reputation scenario. Then the participants filled in demographic data consisting of questions such as gender, age, study program, semester, GPA, and courses that had been attended.

### **Operational Definition & Variable Measurement**

Budgetary slack as the dependent variable was measured based on the variance between the participant's best estimate (in carrying out the decoding task) and the budget proposed (Stevens, 2002; Webb, 2002). The first independent variable (the superior's reputation) was manipulated into two scenarios: favorable and unfavorable reputations (Chong & Loy, 2015). Participants conceive the difference between favorable and unfavorable reputation from the information about their superior, comprising educational

background and superior characteristics. Participants will be given a short description, including name, academic and professional qualifications, and explanation concerning their superior’s trait.

Participants will be presented with general information about age, graduates from leading universities, with three types of professional expertise, and a good track record in a favorable reputation. The superior is a figure who puts forward integrity and transparency, able to create a conducive working atmosphere. Moreover, participants were also provided brief information as to superior interview script with news reporter which indicates that superior has good reputation, and responds to the reporter’s questions in a firm, informative manner, and can present the impression of a superior who protects subordinates, still with

certain assertiveness, therefore the subordinates will feel reluctant and worried when behaving fraudulently and opportunistically. Whilst an unfavorable reputation, participants received the concise explanation that their superior was an aggressive person, with an inadequate academic background and professional expertise, causing the work environment to be unfavorable, only results-oriented, where integrity was not a priority, therefore it could become an opening for subordinates to act fraudulently. Meanwhile, need for achievement was measured based on the score obtained from a questionnaire about the character of the participants regarding a target, and it consisted of 5 scales, 1 for low need for achievement and 5 for high need for achievement (Chong & Ferdiansah, 2012).

**Table 1. Experimental Procedure**

Pre-experiment	Questionnaire Fulfilment (need for achievement questionnaire)
Session 1	(Part 1) Overview of the task – Brief explanation of experiment assignment (Part 2) Decoding task – Participants accomplish decoding task and employ the score to estimate reward points (Part 3) Budget estimation – Participants propose reward points to their superior
Session 2	(Part 1) Providing information about: a. Incentive payment scheme b. Superior’s reputation (favorable versus unfavorable) (Part 3) Budget submission to superior by considering two factors
Session 3	(Part 1) Manipulation check (Part 2) Demographic information (gender, age, GPA)

**Table 2. Manipulation of Independent Variable**

Need for achievement	Superior’s Reputation	
	Favorable	Unfavorable
NFA High and NFA Low	Background: 1. Graduates from a leading university 2. Excellent in academic and professional qualifications 3. 20 years experience in manufacturing industry	Background: 1. Graduates from ordinary university 2. Average in academic and professional qualifications 3. 5 years experience in manufacturing industry
	Traits: 1. Creating a work environment that is fair, honest, full of trust 2. High integrity 3. A fair and respected figure	Traits: 1. Creating an environment where trust, fairness, honesty, and respect are undervalued 2. Low integrity 3. An aggressive and ambitious figure

**Data Analysis Technique**

Two-way ANOVA was used to test the effect of the independent variable on the dependent variable, or to test the main effect, and the interaction effect of an independent variable to the dependent variable depended on the level of other independent variables (Sekaran & Bougie, 2016). Therefore, the testing of each hypothesis was carried out in two stages. The first stage was about the testing of hypotheses 1 and 2. The second stage was the testing of hypothesis 3 using two-way ANOVA.

**RESULTS AND DISCUSSION**

**Instrument Testing**

The results of the instrument reliability testing in this study showed

the Cronbach alpha value of 0.624. Although these results are below the minimum reliability limit of 0.7 Hair (2019), nevertheless van Griethuijsen et al. (2015) stated that the Cronbach alpha value of 0.7 or 0.6 is still acceptable to conclude that the instrument used is used has met the reliability requirements. Chong and Ferdiansah (2012) also showed similar results where the Cronbach alpha value did not reach 0.7, it was concluded that this value could still be categorized as moderate reliability.

Validity testing was done by looking for the value of r table first, with the criteria of dF (71-2 = 69), a significance level of 5%, with a total sample of 71, which resulted in the r

**Table 3. Testing of the Reliability and Validity of the Need for Achievement Questionnaire**

Item	Corrected Item-Total Correlation (calculated r)	Cronbach's Alpha
NFA1	0.419	0.624
NFA2	0.521	
NFA3	0.397	
NFA4	0.267	
NFA5	0.339	

**Table 4. Demographic Characteristics of Experiment Participants**

Demographic		Group				Total
		A	B	C	D	
Gender	Female	17	13	14	15	59
	Male	3	3	4	2	12
Age	Min	19	20	20	19	19
	Max	22	22	23	24	24
	Mean	20.8	20.7	21	21.2	21
	Std. Dev	0.79	0.7	0.91	1.38	1
GPA	Min	3.35	3.38	3.22	3	3
	Max	3.92	3.89	3.92	3.92	3.9
	Mean	3.63	3.67	3.55	3.48	3.6
	Std. Dev	0.19	0.18	0.25	0.27	0.2

A = Favorable Reputation– High Need for Achievement  
 B = Unfavorable Reputation– High Need for Achievement  
 C = Favorable Reputation– Low Need for Achievement  
 D = Unfavorable Reputation– Low Need for Achievement

table value of 0.2303. The instrument is concluded as valid if the calculated r value is more than 0.2303. Based on the results of the reliability analysis, each item showed a value of more than 0.2303, so it can be concluded that the instrument for need for achievement was proven valid.

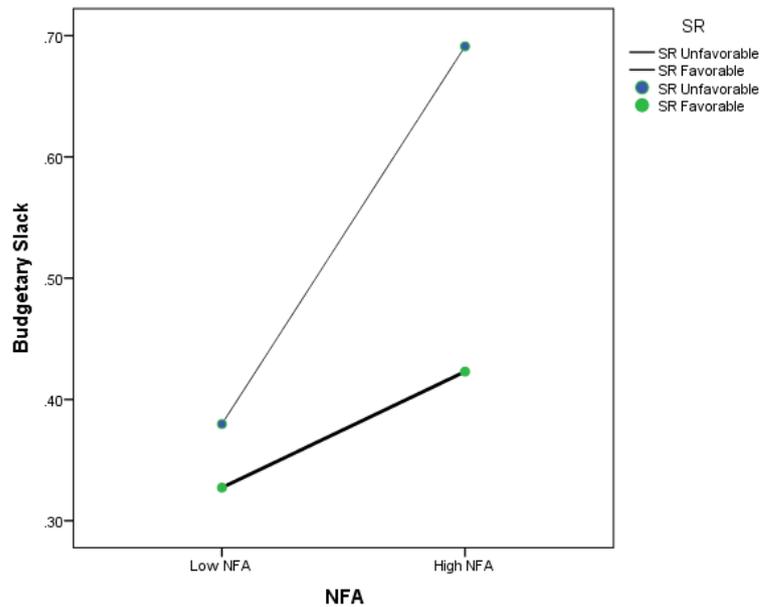
**Demographic Data**

The demographic data of the participants showed that each cell

contained participants with similar characteristics. On average, the gender for cells A to D consisted of 15 female participants and 2 male participants, while the average age was 21 years. The GPA values were also relatively not different with an average value of 3.6. These characteristics, especially the GPA, indicated that quantitatively, the participants had a sufficiently good academic ability to become partici-

**Table 5. Descriptive Statistics**

Need for Achievement (NFA)	Superior's Reputation		Total
	Favorable	Unfavorable	
High	Cell 1	Cell 2	Mean 0.5421
	Mean 0.4229	Mean 0.6911	SD 0.26378
	SD 0.24899	SD 0.20296	n = 36
	n = 20	n = 16	
Low	Cell 3	Cell 4	Mean 0.3528
	Mean 0.3273	Mean 0.3798	SD 0.23445
	SD 0.22971	SD 0.24338	n = 35
	n = 18	n = 17	
Total	Mean 0.3776	Mean 0.5307	
	SD 0.24171	SD 0.27184	
	n = 38	n = 33	



**Figure 2. The Interaction of Superior's Reputation and Need for Achievement**

pants and did a series of experimental tasks.

**Descriptive Statistics**

Table 5 presents the descriptive statistics for each variable. On

average, each cell consists of only 16 to 20 samples, even though a larger sample size can increase statistical power. However, according to Choo and Tan (2006), the number of samples taken in behavioral

accounting research is 10 to 20, and most importantly no less than 10 subjects in each treatment group. This argument refers to the calculation of Cohen's *d* Cohen (1988) regarding the trade-off between power and cost, i.e, if more than 20 samples increase the sample size, the increase in statistical power remains the same 10% while the cost of adding samples will also increase, therefore the total sample at each cell is deemed sufficient to represent the statistical power in hypothesis test.

In addition to table 5, descriptive statistics are also shown in Figure 2, where each group showed the same results as stated in the hypothesis. In total, subordinates with low NFA characters created lower slack compared to subordinates who had high NFA characters (0.3528 versus 0.5421 in Table 5). In comparison, subordinates who got a superior with a favorable reputation tended to limit the creation of slacks, compared to when they got an unfavorable superior (0.3776 versus 0.5307 in Table 5). Specifically, subordinates who got favorable superiors and had low NFA characters would also produce smaller slacks when compared to when they got unfavorable superiors (0.3272 versus 0.3798 in Table 5), and if subordinates had a high NFA character, they would tend to limit the

creation of slack if they got a superior with favorable reputation (0.4299 versus 0.6911 in Table 5).

### **Hypothesis Testing**

The first test was the randomization test which aimed to make each group comparable, so that internal validity can be maintained. Randomization was performed using the chi-square test. This test was conducted to determine whether or not there were differences in the distribution of gender, age, and GPA.

The significance value of these three characteristics showed insignificant results ( $> 0.05$ ). These results indicated that there was no significant difference between the distribution of gender, age, and GPA in each experimental cell. Thus, it can be concluded that randomization in this experimental research had been running effectively.

After the testing of randomization, the next step was the testing to find out whether the ANOVA testing assumptions had been fulfilled. The first assumption was the normality assumption, using the Kolmogorov-Smirnov test, which showed insignificant results ( $p=0.353$ ), meaning that the residuals were normally distributed. Next is the homogeneity test, which aimed to determine whether the variance of

**Table 6. Results of Randomization Testing with the Chi-Square Test**

Characteristic	Pearson Chi-Square Coefficient	Significance
Gender	13.059	0.788
Age	76.230	0.849
GPA	844.968	0.333

**Table 7. Hypothesis Testing Results**

Variable	Type III Sum of Squares	dF	Mean Square	F	Sig
Superior's reputations (SR)	0.453	1	0.453	8.342	0.005***
Need for Achievement (NFA)	0.730	1	0.730	13.439	0.000***
SR * NFA	0.205	1	0.205	3.774	0.056*

R Squared = 0.263 (Adjusted R Squared = 0.230)

\*significant in level 10%; one-tailed

\*\*\*significant in level 1%; one-tailed

observations in the data cells were the same, using Levene's test. The results of the second assumption test showed that the variance in the value of the dependent variable at various levels of the predictor (independent variable) was not relatively different ( $p= 0.846$ ).

Hypothesis 1 was tested to find out whether the reputation of the superior had a significant effect on budgetary slack. The result showed that the average value of budgetary slack in cells 1 + 3 (superior's reputation was favorable) was smaller than the value in cells 2 + 4 (unfavorable superior's reputation) and proved to be significantly different ( $F=8.342$ ;  $p<0.01$ ). Therefore, it can be seen that hypothesis 1 is supported.

The second hypothesis testing to find out whether there was an effect of

the need for achievement character on budgetary slack. The results of hypothesis 2 showed that there was a significant difference between high NFA and low NFA ( $F=13.439$ ;  $p<0.01$ ), and specifically, the average budgetary slack value in cells 1 + 2 (high NFA) was greater than cell 3 + 4 (low NFA). Therefore, it can be concluded that hypothesis 2 is supported.

Meanwhile, the objective of the testing of the third hypothesis was to examine the interaction effect between superior's reputation and NFA on the budgetary slack. The two-way ANOVA test results show that hypothesis 3 is partially supported, there is an interaction between superior's reputation and NFA ( $F=3.744$ ;  $p=0.056$ ). From these results, it can

**Table 8. Additional Analysis**

Variable	Type III Sum of Squares	dF	Mean Square	F	Sig
Superior’s reputations (SR)	0.320	1	0.320	11.413	0.001***
Need for Achievement (NFA)	0.596	1	0.596	6.122	0.016**
SR*NFA	0.265	1	0.265	5.083	0.028**
Gender	0.003	1	0.003	.062	0.803
Age	0.000	1	0.000	.005	0.903
GPA	0.066	1	0.066	1.258	0.266

R Squared = 0.275 (Adjusted R Squared = 0.202)

\*\*significant in level 5%; one-tailed

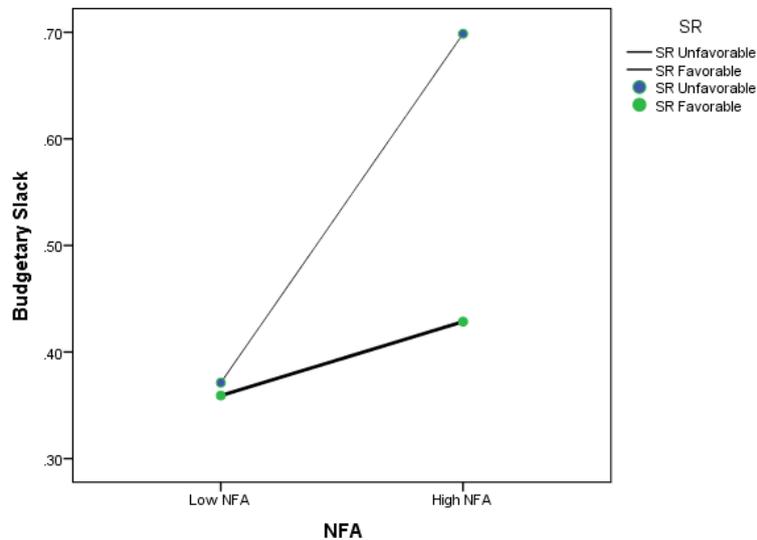
\*\*\*significant in level 1%; one-tailed

be interpreted those subordinates who have a high need for achievement character will create a lower budgetary slack if they get a superior with a favorable reputation rather than a superior whose reputation is unfavorable.

**Additional Analysis**

We continued additional testing to validate the results of the analysis across 3 hypothesis tests. Further analysis was conducted by combining the covariates that were collected during the experiment. Covariates were examined by two independent variables including gender, age, and GPA. The additional analysis results indicate that the three hypotheses are consistently proven to affect budgetary slack at the 5% significance level. A favorable superior reputation remains able to be a control tool to minimize budgetary slack. The NFA

character is a factor that can determine the level of budgetary slack. The interesting results on these tests are the interaction effect is proven to be more significant at the 5% level, therefore this additional test corroborate prior results when subordinates have a high NFA, the slack propensity can be controlled by favorable reputation. Meanwhile, none of the covariates have an influence on budgetary slack. These results also confirm that this study succeeds in controlling demographic characteristics. As mentioned by Sahoo (2019) that the ideal experimental research controls all extraneous variables, which can be overcome by randomization. The results of these tests found that the randomization in this experiment was successfully carried out and the demographic characteristics or other covariates did



Covariates appearing in the model are evaluated at the following values: GPA = 8,9399, Gender = 1,8358, Age = 20,9403

**Figure 2 The Interaction of Superior's Reputation and NFA from Additional Testing**

not portray as an independent variable.

**Discussion**

*Superior's Reputation and Budgetary Slack*

The testing of the first hypothesis shows a relationship between the superior's reputation and budgetary slack. This result is supported in table 5, which exhibit descriptive statistics on average lower budgetary slack values (0.3776) on subordinates with favorable superior reputation, and 0.5307 for unfavorable reputation. ANOVA testing also present similar results, superior's reputation is determinant

of the likelihood of budgetary slack. Additional analysis also validates these results, and it can be seen that both descriptive and inferential statistics provide consistent effect, subordinates will tend to create lower budgetary slacks when they got a superior with a favorable reputation rather than a superior with an unfavorable reputation. The results of this test support the concept of antecedents of budgetary slack Dunk and Nouri (1998) and studies that have proven the role of superior's reputation as informal controls that can prevent the possibility of budgetary slack (Arnold & Schreiber,

2013; Chong & Loy, 2015; Latham & Saari, 1979; Webb, 2002).

Superior's reputation is a form of internal control and social control that can mitigate budgetary slack carried out by subordinates (Chong & Loy, 2015). Control from superiors means that a leader must provide a moral example for his subordinates and determine what activities can harm the values of the community in general (Aronson, 2001). A model of a superior can certainly have an impact on subordinates, especially if a superior can adjust his leadership style with contingent factors such as state culture, organizational culture, situations that allow leaders to have power, control, or influence (Heller & Yukl, 1969; House et al., 2004). For instance, if the foreman is within an environment with a high-power distance culture, such as culture in Asia, the foreman can adjust the decision-making style by becoming a firm leader, having strong authority, upholding values and morals that organization member can respect him. Especially in this study, which is based in Indonesia, has a power distance score of 78 (Hofstede, 1984), which means that the role or influence of the leadership is very strong, directive, and centralized, so that a superior with a favorable reputation can cause subordinates to

be more reluctant and obedient to direction from superiors, one of which is by providing good influence and motivate subordinates to normatively do the right and honest thing, in this case specifically avoiding budgetary slack (Elsbach & Sutton, 1992). Therefore, subordinates will view superiors as a benchmark for their behavior, including in how to prepare a budget.

#### *Need for Achievement and Budgetary Slack*

The second hypothesis testing reveals that the hypothesis is significantly supported. Several tests evidence this result, the first one is descriptive statistical results concerning the average value of budgetary slack in cells 1 and 2 which is higher (0.5421) compared to the average in cells 3 and 4 (0.3528). These results indicate that subordinates with high NFA tend to create more amount of slack. ANOVA test consistent results as well. NFA character has a significant role in determining the magnitude of budgetary slack. Moreover, additional analysis also validates the prior test results, that there is a relationship between NFA and budgetary slack. This result is in accordance with the achievement theory which explains that individuals will be oriented

towards achievement when in a situation that allows them to try to achieve certain standards (Riahi-Belkaoui, 2002).

A high level of need for achievement can trigger someone to do budgetary slack. This is due to the character possessed by individuals with a high level of need for achievement, they will always make every effort to obtain the targets they want to achieve. It is in line with the research of Steers and Spencer (1977) which states that individuals with a high need for achievement tend to look for challenging jobs, find solutions to a problem, and prefer situations where they can receive returns for their performance.

The results of this study support the concept of antecedents of budgetary slack formed by Dunk and Nouri (1998), which states that the need for achievement is one of the factors of motivation theory that influences the creation of budgetary slack. Apart from the perspective of motivation theory, budgetary slack is also closely related to agency problems, where in this case subordinates who act as agents have more information in preparing budgets than their superiors, so that subordinates have greater opportunities to create budgetary

slack according to their interests (Maiga & Jacobs, 2007).

Chong and Ferdiansah (2012) research also prove that if an individual with high NFA was placed in a condition where they must fulfil certain targets due to bonus payment or performance indicators schemes, the individual would do whatever it takes to achieve their target, through the creation of slack on a budget. This action is carried out because individuals with high NFA tend to prove to be great in competition Ward (1993), and pleasure voluntarily choose activities that are achievement-oriented (Bateman & Crant, 1993; Wiener, 1982). Moreover, bonus schemes or rewards for subordinates as extrinsic motivation can trigger subordinates to engage with activities that make it easier to get bonuses, such as participating in the budgeting process Wong-On-Wing et al. (2010), or creating more slack. In contrast to individuals who have a high level of NFA, individuals with a low level of NFA are less likely to do budgetary slack because they are not interested in achieving optimal results.

#### *Superior's Reputation, Need for Achievement, and Budgetary Slack*

The results of the testing of the third hypothesis prove that there is an

interaction between the superior's reputation and the character of need for achievement, that is, subordinates who have a high level of NFA will create a lower budgetary slack if they get a superior with a favorable reputation. These results are clarified in the descriptive statistical results. Cell 1 in table 5, which contains favorable reputation condition and a high NFA, exhibits a lower average value of 0.4229, compared to cell 2 which includes unfavorable reputation and high NFA. Furthermore, cell 3 shows a lower average value rather than in cell 4. Still, the average value of cell 3 is lower than cell 1, since cell 1 and cell 3 received a favorable reputation but the participants had a different NFA. Moreover, the average value of cell 4 is also lower than cell 2, which means that when a subordinate has a high NFA and is supported by an unfavorable superior reputation, the subordinate's chances of making budgetary slack are higher. The interaction test between superior reputation and NFA is strengthened by the ANOVA test with a significance level of 10%, and is clarified in additional testing which represent an enhancement in the significance level to be 5%.

The superior's reputation has been proven to be an informal control

that can suppress the creation of budgetary slack. The form of informal control in question is a favorable reputation from a superior, as a favorable reputation will give the impression that a superior is a respected party because they have a good track record and acts as a party who pays attention to and monitors the performance of their subordinates. The results of this study are consistent with the study of Chong and Loy (2015) which concluded that a superior's reputation can act as an informal monitoring medium that can trigger subordinates to act in a consistent manner.

The interaction effect between the superior's reputation and the character of need for achievement means that the superior's reputation, especially favorable reputation, is a control mechanism that can prevent opportunistic behavior from subordinates. Subordinates with the character of a high need for achievement will be more motivated to deal with budgetary slack, particularly the existence of extrinsic motivation such as payment of salaries and bonuses if targets can be met, and will make subordinates more motivated to make decisions so that goals are achieved after carrying out certain tasks Deci and Ryan (1985), as stated in a research by Riahi-

Belkaoui (2002) which explains that individuals who are achievement-oriented will try their best to achieve certain standards.

This character is not always beneficial for the organization, so a control mechanism such as superior's reputation is needed. Superiors must be able to perform as figures who provide examples of values and morals that must be upheld and applied in organizations (Aronson, 2001). Superior is expected to represent ethical, appropriate actions in supporting moral awareness for each of their subordinates (Zhu et al., 2004). Therefore, subordinates will respect their superiors more and be more earnest in carrying out their responsibilities. Especially when the subordinate is in a situation with a high enough power distance culture, such as in Indonesia, where the leader is a highly valued individual (Hofstede, 1984), mainly if the individual has a higher position with a good track record, as in Jogulu and Ferkins (2012) research and Jogulu and Wood (2008) states that leaders can be considered special because they are the ones who determine the direction and make decisions so that subordinates will increasingly follow directions from superiors and lead to lower slack creation because subordinates feel that there is a

mechanism that monitors their behavior (Arnold & Schreiber, 2013).

Moreover, the interaction between superior's reputation and NFA can be clarified by research related to differences in motivation and generational characteristics. Gen Y is a generation that values experience and older generations, even though they have the same motivation as previous generations. Still, Gen Y tends to seek direction from previous generations, so the influence of leaders, in any case, is still very noble in the organization (Gursoy et al., 2008). This means that Gen Y, which in this case can be viewed as a subordinate, is a generation that still respects its superiors, which tends to not slack, even though Gen Y also has extrinsic motivation in the economic aspect.

## **CONCLUSION, IMPLICATIONS, AND LIMITATIONS**

This research has succeeded in proving the influence of superior's reputation and NFA on budgetary slack. Descriptive statistical results show that the average value of budgetary slack is higher in participants with a high need for achievement characters, and when they get a superior with unfavorable reputation. These results are confirmed by ANOVA, which found

out that the amount of budgetary slack proposed by subordinates is determined by the subordinates' need for achievement character and the creation of budgetary slack can be prevented by superiors with favorable reputations. In addition, superior's reputation is also proven to be able to minimize budgetary slack that tends to be carried out by subordinates with a high need for achievement character.

The results of this study provide notable practical implications. First, companies need to determine a payment scheme that can eliminate extrinsic motivation, especially for those with high NFAs. They are not automatically motivated to achieve their goals in inappropriate ways. Second, this study confirms that a superior reputation can limit the likelihood of subordinates in creating slack. This result lead to companies' implication to be more selective in determining the criteria for selecting superiors, which must have a good reputation, strong influence in directing subordinates. The company must compile a fit and proper test including interviews for candidates who match the values adopted by the company, because the leader determines the "set of moral examples" of a company where the behavior of the superior and the

culture created will shape the company's values, including the economic decisions that will be followed by subordinates.

Unfortunately, this study has several limitations. The experimental design used as a test tool may not be sufficient to describe the environment or situation in the real world. Therefore, to generalize the findings or results of this study, in-depth research is required. Furthermore, several other factors such as participants' behavior in taking risks can also influence their decisions in setting budgets. The use of students as participants who replaced the role of managers can also be a limitation related to their lack of experience in setting budgets.

Several options can be made for future research. It would be interesting to conduct research on other informal controls that can affect budgetary slack as informal controls are one of the effective ways to reduce the existence of budgetary slack. For example, we suggest future research to examine the influence of organizational culture on budgetary slack creation. Besides, this research experiment uses simple budgeting material. Therefore, further research can add more complete material so that it can cover all factors that can

determine the amount of budgetary slack.

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