Keeping Self-Interest Under Control: Effects of Procedural Fairness and Project Success Rate in A Cost Reduction Context

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ABSTRACT

In this research, we experimentally investigate the effects of procedural fairness (fair and no fair) and success rate (low and high of a cost reduction project) on self-interest behavior. We compare a fair procedure condition that provides detail information regarding colleagues' cost structure and their willingness to sacrifice with an unfair condition without such information. We also assign participants into two conditions of success rate: low and high. Individuals who encounter a higher success rate condition are expected to incline to self-interest choice. Ultimately, we hypothesize that procedural fairness and success rate have an interaction effect on self-interest behavior.
We conduct a controlled laboratory experiment to investigate individual decision process in a standard costing setting. The participants are 136 undergraduate business students enrolled in management accounting class at three large private universities that assume as the managers in a production department. They complete an experimental task via computer.

The result of our experiment indicates a mitigating effect of procedural fairness on the individuals' self-interest behavior once the individuals realize the pressure of cost reduction process. The findings allow the conclusion that both self-interest and social preferences are guiding motivational factors of individual behavior. The findings indicate that people are willing to pursue organizational goal on the expense of their personal benefits. The result also shows the process of how to encourage employees to undertake projects that decrease their current benefit but potentially have future organizational payoff. However, we do not find the interaction effect between procedural fairness and success rate.

Keywords: Self-interest, procedural fairness, success rate

1. Introduction

Firms that deal with intense competition must become excellent in developing low-cost, high-quality products that have value in the eyes of customers. Cost, quality, and value have been effective competitive weapons and managed throughout competing firms in the past three decades. Accordingly, rapid progress in high technology and increasingly competitive international markets have led to changes in management accounting practices in developed countries such as USA and Japan (Atkinson et al. 2012; Monden and Monden 2007; Nishimura 2003).

Unfortunately, the wave of change does not seem to positively affect Indonesia's competitiveness. In fact, higher product costs driven by domestic cost inflation, which includes higher labor costs, have weakened Indonesia's capability to compete internationally, let alone globally. According to International Monetary Fund (IMF), Indonesia's unit labor cost have been steadily increasing and constantly eroding the Nation's competitiveness (Thee 2006). Other research reports that in recent years China, India, and Vietnam have emerged as strong competitors to Indonesia, since the countries export the same low-skill, labor-intensive product (Waheeduzzaman 2011).

To gain the competitive advantage, firms in Indonesia must ceaselessly research and develop low cost yet high quality products that meet the market's expectation. Firms have to put importance on how to reduce cost continuously. The yardstick of cost management should shift from how to meet standard cost to continuous cost reduction.

Cost reduction or continuous improvement context has been a fruitful area in management accounting research (e.g., Chenhall and Smith 2011; Lam 2011). Research has focused on measurement and control of factory costs. Companies control costs in all value-adding stages, including production phase (Endenich et al. 2011). Extant literature suggests that cost reduction process require cooperation among workers and managers (Nishimura 2003). Research shows that to ascertain continuous improvement in production phase, companies emphasize on the importance of organizing work that stimulates all employees cooperation (Abrahamsson and Gerdin 2006). The working task of production employees has been extended to active engagement in reducing costs. Production employees should continually seek out and eliminate sources of process imperfection (Wynder 2008).

Hence, the effectiveness of cost reduction process depends heavily on human factors. Wynder (2008) finds that efficient involvement of managers in cost-reduction efforts can be achieved by employing activity-based costing information or by relying on manager's intuitive understanding

of production process. Research shows that transforming shopfloor workers' responsibility from vertical perspective to a more horizontally-oriented can enhance employee cooperation in continuous improvement (Abrahamsson and Gerdin 2006). Lam (2011) finds that individuals are more likely to be involved in continuous improvement process when they are evaluated over the longer evaluation window.

Nevertheless, previous research has, at best, provided incomplete answers regarding how individuals behave during the process of providing contribution within a production cost reduction context. Specifically, extant studies in the context have been based on behavioral assumptions that are subject to potential egocentric biases. Economic rationality is the main realm of behavioral decision research (Bazerman and Tenbrunsel 1998). A common assumption of classic economic models is that individuals would act opportunistically for private gain at the expense of collective (Jensen and Meckling 1976). While this assumption is valid to explain behavioral tendency of people in certain conditions, it may only partially represent the behavioral of people in various settings (Ghoshal 2005). The assumption has been undermined by actual decisions of individuals which cannot be predicted by rational economic models. There is strong empirical evidence that individuals are subject to boundedly rational behavior (Bigus 2012). Individuals in fact make decisions that are inconsistent with economic rationality (e.g., Rankin et al. 2008; Booker et al. 2007).

This study differs from prior research because it focuses on individuals' self interest mitigation in a production cost reduction setting. This psychological focus is aimed at addressing an unanswered question of previous studies: whether individuals participating in a collective effort are able to control their self interest leanings when they are exposed to social and psychological pressures. Specifically, this experimental study proposes that individuals are faced with a conflict of interest when they see a possibility to realize personal gain from their participation in a standard cost setting process but their self interest runs against the interests of the organization

as a whole. We expect that participation in the process of determining production standard cost affects the extent to which individuals perceive this conflict of interest to constitute an ethical dilemma.

We address an important question related to a factor that can undermine individuals' self interest: how perceived procedural fairness affects individuals' decision? Previous studies find that people involving in a participative decision making are concerned with how fair the procedures are (e.g., Nahartyo 2013; Wan et al. 2012). Research indicates that managers often have a stronger reaction toward the fairness of the procedures than that toward distributive fairness (Luo 2007; Konovsky 2000). While studies reporting reactions to fair procedures has demonstrated solid results, the literature has not yet provided conclusive evidence whether procedural fairness affects individuals' decisions in setting standard cost. Specifically, the study examines the role of procedural fairness, particularly the "soft side" (i.e. group value) of procedural justice elements, in explaining how individuals take into account fairness conditions in making standard cost decision.

The research also focuses on the effect of uncertainty or ambiguity on individuals' resource allocation decisions. Previous research shows that individuals' perception of the risks involved (i.e. level of uncertainty and/or ambiguity) influence their choice of options. This perception alters their self-interest behavior. We conjecture that the level of success rate is of importance in determining standard cost decision. Psychology theory, particularly expectancy theory, suggests that people are willing to postpone short term benefit when there is an acceptable likelihood of future payoff (e.g. Fudge and Schlacter 1999). Therefore, related to the first question above, we address the literature gap using the second question: are the effects of procedural fairness different depending on the success rate? Based on the theory, we expect that there is a negative relation between success rate and individuals' willingness to delay short-term gain.

This study contributes to behavioral management accounting literature in two ways. First, it considers the impact of social preferences as well as personal perception on resource allocation decisions. The expected findings allow the conclusion that both self-interest and social preferences are guiding motivational factors of individual behavior. Such explanation, for answering why people must pursue organizational goal on the expense of their personal benefit, are relevant to the broader topics of self-control and organizational commitment, and has implications for settings such as workplace. Secondly, this research is expected to shed lights on the process of how to encourage employees to undertake risky projects that decrease current financial benefit but potentially have future organizational advantages.

We will test our hypotheses by conducting a laboratory experiment in which 136 undergraduate business students each will act as a member of production department management. All subjects are to make decisions regarding product standard cost. We posit that when subjects have the opportunity to participate in a standard costing process, they have incentives to alter the decision to acquire a greater share of resources. We manipulate both procedural fairness and success rate between subjects at two levels. In the fair condition, subjects receive information regarding the willingness of their colleagues to reduce their share of resources (wages) and to disclose their cost structure, whereas in the no-fair condition subjects do not receive such information. In the low(high) risk project condition, subjects are informed that the estimates success rate of the project is 80 percent (between 20-40 percent).

2. Background and Hypotheses

Setting

Assume there is an individual who works in a production department. Her duty is to determine the standard cost of a particular product. The standard cost consists of three elements: material, labor, and overhead. The individual knows that she can benefit more by keeping the labor cost at the maximum amount. She also knows that reducing material cost will lead to product quality

deterioration. The overhead cost remains fixed and cannot be altered. Further, each individual is endowed with a certain amount of money that she can allocate to material, labor, or overhead costs, and she can derive utility only from labor cost. In this setting, each individual has to decide on the amount of money to allocate among the three product cost elements. The extent to which the individual allocates more money to labor cost represents self-interest decision.

This raises a question regarding the method or scheme organizations should employ to motivate individual employees to allocate resources a manner to provide as great as possible benefit for the organizations. In this study, we will examine the efficacy of procedural fairness and success rate to alter the allocation decision. We select these variables, decribed below, because of their theoretical importance and their common use in practice and research (see, e.g., Nahartyo 2013; Loi et al. 2012; Lam 2011; Fudge and Schlacter 1999). For example, Nahartyo (2013) discusses two components of procedural justice theory: self-interest theory and group value model. Loi et al. (2012) provide an explanation of why fair procedures influence employees' feeling of uncertainty. Lam (2011) documents the effect of longer evaluation window on the effectiveness of encouraging employees to focus on long-term rather than short-term profitability. Fudge and Schlacter (1999) offers a model based on expectancy theory to eliminate unethical practices of employees which may hurt the long-term interests of the company.

Mitigating Effect of Procedural Fairness

The question of what motivates individual behavior in social interactions is central for a better understanding of participative decision making. Do individuals selfishly maximize their own material welfare, or do they take the well-being of others into account? Traditional rational choice theory suggests that individuals are both self-interested and inequality averse (Jensen and Meckling 1976). Prior research suggests that managers, under certain conditions, exhibit myopic behavior. That is, they choose actions that improve short-term profitability at the expense of long term profitability (e.g., Bhojraj and Libby 2005). On the other hand, opponents of the

theory have developed arguments which explain that, even in genuine distributional problems, individuals still hold sufficiently strong social preferences (e.g. Sauermann and Kaiser 2010; Davis et al. 1997).

Procedural fairness represents the degree to which the processes used to make a decision are fair (Konovsky 2000). In this study, procedural justice is defined as the extent to which the standard costing processis judged to be fair by employees. Procedural fairness provides valuable information to the sense making processes through which individuals develop their attitudinal and behavioral reactions to valued outcomesthey receive from organizations (Brockner 2002). Self-interest theory of procedural justice (Thibaut and Walker 1975) asserts that procedures are considered as fair if those affected by the outcome of the procedures have control over the decision process. The theory suggests that in a fair situation, people may forego short-term benefits from a relationship and focus on forthcoming advantageous outcomes in the future. On the other hand, if the procedure is perceived as unfair, people will believe that the future outcome is negative and they will care mostly about short-term outcomes.

Lind and Tyler (1988) provide explanation beyond self-interest theory. Their group value model postulates that in addition to economic benefits, individuals value psychological rewards in an economic relationship. People are predisposed to belong to social groups and that they are very attentive to signs and symbols that communicate information about their position within groups. The group value model suggests that people are concerned about their long-term social relationship and do not view the relationship as a one-shot deal (Tyler 1994). This leads the people to be concerned with three factors: the neutrality of the decision-making procedure, trust in the groups, and evidence about social standing or status. If neutrality exists, then the decision-maker is free from bias. People perceive the decision-makers as neutral if they create a level playing field for all. Trust refers to the degree to which people believe that the decision-maker intends to act in a fair manner. Standing is the position that individuals possess in a group as the

result of how the group treats them. Being treated with respect and dignity implicitly informs one that she is a valued organizational member and furnishes a source of self-validation.

The current study measures the extent to which individuals make egocentric decision and how procedural fairness mitigates the individuals' inclination to act selfishly. The presence of high procedural fairness prevents individuals from developing feelings of animosity toward the organization and makes them more likely to accept and support the organization and its decisions (Brockner, 2002). Specifically, high procedural justice stimulates trust in the organization. Applied to the current study, these sensemaking perspective simply that procedural fairness will also attenuate the individuals' myopic behavior tendency.

In addition, uncertainty management theory relates fairness with uncertainty in the sense that individuals tend to rely heavily on fairness information when they are confronted with uncertainty (Loi et al. 2012). According to this theory, people tend to focus on environmental signals to reduce uncertainties and procedural fairness information is one of the most important cues. We thus anticipate that, with higher levels of procedural fairness, individuals are willing to postpone their short-term, individual benefit in exchange for an enhanced long-term relationship with the organization. Acting as management team member in the standard costing process, the individuals are expected to undergo an ethical dilemma when a cost reduction program is enacted. The study expects a mitigating effect of procedural fairness on the individuals' self-interest behavior once the individuals realize that the standard costing process produces cost reduction pressure. The following hypothesis is thus proposed.

H1: Subjects in fair procedures condition will allocate less money to labor cost.

The Effect of Project Success Rate

Project success rate explains the project risk in gain domain. Project risk is explained with uncertainty and ambiguity. Referring to the Merriam-Webster Dictionary, uncertainty is

described as doubt or a lack of sureness about someone or something. Uncertainty may range from a falling short of certainty to an almost complete lack of conviction or knowledge especially about an outcome or result. In the literature, uncertainty is subject-specific, i.e. uncertainty resides in the eye of the beholder (Geersbro and Ritter 2010). Different individuals may have varying degrees of perceived uncertainty in similar situation.

According to the Merriam-Webster Dictionary, ambiguity means something that does not have a single clear meaning: something that is ambiguous. Ambiguity can represent in a situation in which something can be understood in more than one way and it is not clear which meaning is intended. There is a controversy in understanding the concepts of uncertainty and ambiguity. Geersbro and Ritter (2010) argue that ambiguity is not the same as uncertainty. They contend that uncertainty is caused by lack of information, while the quality of information is the source of ambiguity. On the other hand, a number of academics have defined ambiguity very closely to the definition of uncertainty. Bigus (2012) states that ambiguity implies uncertainty about the probability that a future event will occur. This view of ambiguity focuses on the amount ofinformation available which fits better with the definition of uncertainty. Ho et al. (2002) argue that ambiguity is conceived as adding a second order probability distribution on top of the probabilistic uncertainty in a decision under risk. Stated differently, in an ambiguous situation, people may reason in a way analogous to how they face uncertainty. Our study adopts the latter argument and defines project success rate as the accumulation of uncertainty and ambiguity effects in carrying out a specific process, i.e. cost reduction project.

Chang et al. (2002) propose a framework for resource allocation projects. They assert that project-related factors (e.g. uncertainty), decision makers' characteristics (e.g. knowledge and experience), and managerial environment (e.g. information asymmetry) affect managers' resource allocation decisions. The framework proposes that in making decisions regarding resource allocation among different projects, managers' subjectivity is affected by future uncertainty.The

link between the uncertainty and individuals' subjectivity in making decisions is critical in assessing the characteristics and effectiveness of resource allocation.

Ho et al. (2002) state that managerial decisions involving allocation of resources are affected by probability of outcomes and ambiguity of payoffs. They find that when managers are faced with imprecise probabilities, their perceptions of the risks involved influence their choice of options. Specifically, managers tend to choose the least ambiguous option. Tversky and Kahneman (1981) have shown that prospect theory model can describe a value function over outcomes. The model implies that people tend to be risk averse when they might have something to gain and to be risk prone when they might have something to lose. In relation with ambiguity, the model indicates such probabilistic decision weights may be affected by ambiguity. This indication is suggested also by research findings that show how people generally avoid ambiguity in the gains domain and are ambiguity prone in the loss domain (e.g., Cabantous 2007).

Ambiguity aversion may have an important implication: pessimism. Pessimism means that individuals overestimate the probability of the worst outcome. With ambiguity aversion, people tend to weigh less favorable outcomes more highly, and are, therefore, more pessimistic. For instance, other things being equal, individuals usually prefer a 30 percent chance to a (imprecisely defined) chance of 10–50 percent (Bigus 2012). In short, individuals prefer a certain probability to a probability range. This implies that ambiguity aversion can be considered rational. Based on the arguments, we expect that individuals who higher success rate (80%) will exhibit more self-interest choice than individual who lower success rate (20-40%). Thus, the following hypothesis is proposed.

H2: Subjects in high success rate condition will allocate more money to labor cost.

The Interaction Effect of Procedural Fairness and Success rate

The procedural fairness theory suggests that people are attentive to long-term social relationship and expect for valuable outcomes from the relationship. When they perceive procedural fairness, individuals may delay short-term advantage in exchange for long-term gain. Moreover, when individuals deal with an uncertain decision environment, they depend on information about procedural fairness, to reduce the uncertainty level, in coming to a decision. In organizational settings, the perception that one has been treated fairly leads to a variety of prosocial consequences, such as higher commitment to organizations and institutions, more extrarole citizenship behavior, greater likelihood of conflict prevention and resolution (Van den Bos and Lind 2004). As also discussed in previous section, we expect that procedural fairness perception will lead to individuals' lower inclination to self-interest decisions.

Expectancy theory asserts that motivation is a function of individuals' perceptions of their environment (Fudge and Schlacter 1999). In particular to this proposed study, there are three important factors in this theory: effort-performance expectancy, performance-outcome expectancy, and valence. The first concerns the individual's perception that effort is positively correlated with level of performance. The second concerns a person's expectations that the rewards she will receive are closely tied to her level of performance. Valence relates to the degree to which an individual values a particular reward. The more a person values the reward she will receive for her effort, the more motivated she will be to receive the reward. Rewards for which people generally havea high valence include salaries, bonuses, promotions, and recognition. Hence, in the proposed research, we expect that high certainty/low ambiguity (i.e. low success rate) will encourage individuals to pursue a projects that decreases current benefit but potentially have positive future payoffs.

The extant motivation literature reveals that the pursuit of personally constructed goals involves maintenance of positive self-regard, whereas striving for socially constructed goals involves

identification with role obligations at work (e.g., Chen et al. 2009). Personal goals may not have high social value and are not necessarily subject to consistent expectations from others. On the contrary, social goals are generally accorded with expectations from others and have high social value. Hence, we infer that the consideration of social preferences considerably adds explanatory power to rational predictions of behavior in standard costing decisions. Both self-interest and social obligation motivate individual behavior in such decision making.

Taken together, the theories discussed above imply that individuals who perceive fair procedural condition and are exposed to a high likelihood of future advantage will be more likely to behave in a less self-interest manner. The related hypothesis is thus proposed as follows.

H3: Higher procedural fairness perception and lower success rate will lead to less money allocated to labor cost.

3. Method

Laboratory experiments provide for an excellent method to empirically investigate individual decision process in standard costing. Due to real-world complexity, an empirical test with field data bears the major problem that it ishardly possible to control for all possible causal influences.

Participants and Design

The participants are 136 undergraduate business students at three large private universities in Java, Indonesia. Participation are solicited through electronic as well as printed media. The participants are randomly assigned to one of four between-subjects treatment conditions. We obtain the four between subjects treatment conditions by fully crossing two group procedural fairness conditions with two group success rates. First, we assign participants to one of two procedural fairness conditions (fair and unfair conditions). Second, we assign participants to one of two group success rates (low and high success rates) in gain domain. Finally, participants in all four between-subjects conditions complete an experimental task and the entire experiment via computer. Figure 1 below shows the entire cells.

Figure 1
Experimental Design

		Procedural Fairness Conditions	
		Fair	Unfair
Project success rate	Low	Cell 1	Cell 2
	High	Cell 3	Cell 4

Cell1: Fair condition, low risk
Cell 2: Unfair condition, low risk
Cell 3: Fair condition, high risk
Cell 4: Unfair condition, high risk

Procedure

The experimental procedure comprises 6 steps (Figure 2):

1. We set up the computer lab with a predesigned software and when participants arrive, we randomly assign them to computer terminals.

2. The first few computer screens explain the participants' role and task. Each participant act as a manager in production department in a medium size furniture factory. Their task is to determine a standard cost in the department. The software is designed to be attractive and informative enough to assist the role and task internalization. A number of questions are asked to ensure the participants understand their role and task and its requirements.

3. We inform participants that they will earn "dollar" during the experimental task and that each dollar will be converted to raffle tickets at the rate of one ticket per dollar. At the conclusion of the experiment, the participants receive their tickets. The tickets are drawn to select four winners. Each winner receives 500 thousand rupiahs.

4. The next computer screens describe the experimental task. Participants complete an experimental task which consists of two stages. At the first stage, participants is informed that they are to determine a standard cost for a particular product. We inform the participants that they can allocate 2,400 dollars to three cost components: material, labor, and overhead. There are three choices of material and its costs: high quality material with

the highest cost (900-1,000 dollars), moderate quality material with modest cost (700-899 dollars), and low quality material with the lowest cost (300-699 dollars). The maximum amount of labor cost is set at 1,000 dollars. Participants are informed that they will receive the entire labor cost as their payment at the end of the experiment. The overhead cost is set fixed at the amount of 500 dollars. Participants are unable to change the overhead cost.

5. At the second stage, we inform participants that due to market changes, the company should reduce its production cost to 2,000 dollars. Now it is up to the participants whether they will reduce the material cost, labor cost, or both. In the fair procedure condition, we tell participants that their colleagues (other managers) are willing to reduce labor cost and maintain the quality of material at the maximum level. In addition, we also tell them the amount of cost reduction proposed by each manager in detail. In the unfair procedure condition, we tell the participants that the other managers will reduce the production cost but without the detail of the cost reduction. In the low-risk project condition, we inform the participants that the probability of success of the cost reduction project is 80 percent. In the high-risk project condition, we tell the participants that the probability of success is between 20 to 40 percent. Manipulation checks are administered throughout the treatment processes.

6. Next, the participants are to determine the money allocation to the cost elements. Upon completing the task, participants answer an exit-questionnaire. Last, we calculate participants payments (in form of raffle tickects to be drawn). We announce the participants who win the prizes soon after all experiment sessions completed.

Measures

We examine resource allocation for our dependent variable and fairness (fair and unfair conditions) and success rate (high and low) for our independent variables. Low success rates is 20-40% success rate and high success rate 80% success rate.

4. Results

Test indicates no significant difference across the allocation resources between group and within group for any following variables: age, GPA, gender and grade. We use One Way Anova to test homogeneity of experiment cell and show that all of demography characteristic is homogeny (table 1).

Table 1. Homogeneity Test

		Sum of Squares	Df	Mean Square	F	Sig
Gender	Between Groups	2.398	9	0.266	1.227	0.284
	Within Groups	27.366	126	0.217		
	Total	29.765	135			
Age	Between Groups	2.404	9	0.267	0.774	0.640
	Within Groups	43.478	126	0.345		
	Total	45.882	135			
GPA	Between Groups	3.145	9	0.349	0.766	0.648
	Within Groups	57.495	126	0.456		
	Total	60.640	135			
Grade	Between Groups	15.243	9	1.694	0.736	0.675
	Within Groups	289.786	126	2.300		
	Total	305.029	135			

We also test the disturbance factor that may influence the labor cost allocation decision. The factor that may influence the decision is level of understanding of cost accounting. We test with seven questions of cost accounting and each of question have score 20. Ancova test with independent variable fairness and success rate, covariate variable is score of understanding of

cost accounting show in table 2. The Ancova test indicates that score of understanding of cost accounting is 0.730. It means that there is no influence level of understanding of cost accounting in decision of labor cost.

Table 2. Result of Ancova

Independent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.
Fairness	236,780.413	1	236,780.413	11.316	0.001
Success rate	115,219.762	1	115,219.762	5.507	0.020
Score of understanding cost accounting	2,502.539	1	2,502.539	0.120	0.730

Hypotheses Test

Mitigating Effect of Procedural Fairness

Hypothesis 1 state that subjects in fair procedures condition will allocate less money to labor cost. Independent-t test comparing participant decision with fairness procedure and participant decision with unfair procedures. The results were reported in table 2.

Table 2 Hypothesis 1 Test

		N	Mean	Std. dev	Independent t-test
Procedural Fairness	Fair	67	598.51	153.24	F=0.02 p=0.965
	Unfair	69	681.16	141.71	t= -3.267 p=0.001

Independent t-test indicate that labor cost that were determined participants in fair group were 598.51 and labor cost that were determined participants in unfair group were 681.16. There were significant difference (p= 0.001) and the hypotheses 1 was supported. Subject that received information preference from another production manager that choose high material quality would determine labor cost lower than subject that no information from another production

manager. That information indicates that fairness have a significant role to mitigating manager self-interest. This result supported traditional rational choice theory that individual tend to self-interest and hope to get highest incentive (Jensen and Meckling, 1976). Individual will get the benefit to himself in short time (Bhojraj and Libby 2005) and ignore goal of organization in long term.

Fairness procedural treatment was information that another manager choice best material quality and this situation encourage participants develops attitudinal reaction and behavior on value of organization (Brocker 2002). This result supported Konovsky (2000) that procedural fairness indicates that decision making process is fair. The result also conform Thibaut and Walker (1975) that fair procedure if was influenced outcome of procedure that controlled decision making process and ignore short term interest and focus to interest forward. If feel unfair procedure, individual will trust forward outcome is negative and focus on short time outcome.

The Effect of Project Success Rate

Hypothesis 2 predicts that subjects in high success rate condition will allocate more money to labor cost. The results with independent t-test were reported in table 3.

Table 3. Test of Hypotheses 2

		N	Mean	Std dev	Independent t-test
Project success rate	High	68	669.12	167.74	F=4.544 p=0.035
	Low	68	611.76	131.05	t= 2.222 p=0.028

Table 3 presents the independent t-test results that mean of labor cost for high success rate was 669.12 and mean of labor cost for low success rate was 611.76. The difference of two group shows that probability was 0.028 and hypotheses two were supported. This result conform prospect theory of Tversky and Kahneman (1981) that stated individual will tend to avoid risk if

there was in gain domain and will take a risk if there was in loss domain. This research used success rate (high and low) in gain domain. In high rate shows that the success rate of project was 80% and in low rate shows that the success rate of project was 20-40%.

This research indicate that managerial decision to allocate production cost to labor cost and material cost with fixed overhead cost were influenced with outcomes and ambiguity of incentives that were received. This result conform Ho, Keller and Keltyka (2002). Participants that have a role as manager get choice to take high incentive but must sacrifice high quality and ambiguity to make decision-making. This result also support Cabantus (2007) that stated individual generally avoid ambiguity in gain domain and feel ambiguity in loss domain.

The Interaction Effect of Procedural Fairness and Project Success Rate

Hypotheses 3 stated that higher procedural fairness perception and lower success rate would lead to less money allocated to labor cost. The interaction test with Two Way Anova was reported in table 4. Probability value of fairness was 0.001 and risk was 0.018, but the interaction show probability 0.192 (not significant). The results indicate that there is no interaction effect of procedural fairness and success rate.

Table 4. Interaction Effect Test

Effect	DF	Type III SS	Mean Square	F-Value	Prob > F
Fairness	1	247,352.941	247,352.941	11.965	0.001*
Risk	1	117,647.059	117,647.059	5.691	0.018**
Fairness * Risk	1	35,588.235			0.192
Error	132	2,728,823.529			

*significance at 1%
**significance at 5%

This result didn't support fairness procedural theory, when individual decision depend on success rate, although in partial test show that fairness and success rate influence

decision making. Individual decision making more attentive to long term social relationship and expectation to get outcome did not influenced success rate.

Conclusion

This research provides empirical evidence that procedural fairness influences the participant decision making, so in fairness condition, participants focus on high material quality comparing with incentive that determined from labor cost. This research also support that higher success rate, the decision making to allocate labor cost tend to self-interest with choice high labor cost. However, this research does not support the interaction effect of procedural fairness and success rate. Future research could provide additional effect on issues examine in this paper. First, we made specific choice for success rate (low and high) for gain domain (success rate), future research could examined the sensitivity of our results with affective response like Moreno et al (2002). The affective respond measure how they feel conflict when choose labor cost that impact in their incentive or high material quality. Second, the future research can extend with success rate in gain and loss domain. Third, future research could examine with two-employee groups and use single decision that impact in incentive group and will conform Fisher, Peffer and Sprinkle (2005). They argue that employee shirking could increase within larger groups.

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APPENDIX
Experimental Test Instruments
Available at simulasi.eksperimen.net

<u>Profil Participants</u>
Name:
Gender:
Age:
Grade:
University:
Department:
Level:
GPA:
Email:
Hand phone:

Profil Cemara Indonesia Furniture Company
- Picture (vision, mission, product, exhibition, organization structure

<u>Role and Task</u>
Your role is a production manager of Cemara Indonesia Furniture Co.
Your task is allocating labor cost and material cost of job order costing.

Production cost consists of:
1. Material cost
2. Labor cost
3. Overhead cost

Prime cost = Material cost + Labor Cost
Conversion cost= Labor cost + Overhead Cost

<u>Instruction</u>
The value of labor cost determines your incentive.

Your incentives will convert with coupon ticket (1 dollar = 1 ticket) and get opportunity to win prison total IDR 2 Million for 4 participants.
If you determine higher labor cost, your incentive is higher to.

Incentives

You will get incentive:

1. 20,000 IDR hand phone voucher
2. Opportunity to win prisons total IDR 2 Million.

Check Manipulation 1 & Test of Cost Accounting

(if the first answer correct, score 20, if the first answer wrong then choose again and correct, score 10, if the first and second answer wrong then choose again and correct, score 5). The total score influence the incentive and will convert to coupon and get opportunity to win total IDR 2 million).

1. Your position are …
   a. Human resource manager
   b. Production manager
   c. Marketing manager
2. Your task in that position is…
   a. Determine time of production
   b. Determine cost production
   c. Determine labor time
3. The component of cost production is…
   a. Material cost + direct labor cost+ overhead cost
   b. Indirect material+ material cost+ overhead cost
   c. Direct labor cost+ material cost+ indirect labor cost
4. Prime cost consists of component…
   a. Direct labor cost + indirect labor cost
   b. Direct labor cost+ overhead cost
   c. Direct labor cost + material cost
5. Conversion cost consists of component…
   a. Direct labor cost + indirect labor cost
   b. Direct labor cost+ overhead cost
   c. Direct labor cost + material cost
6. Electricity cost is a component of…
   a. Material cost
   b. Administration cost
   c. Overhead cost
7. If material cost is $50, direct labor cost $100 and overhead cost $25, determines prime cost!
   a. $150
   b. $125
   c. $75
8. If material cost is $50, direct labor cost $100 and overhead cost $25, determines production cost!
   a. $150
   b. $175
   c. $125
9. If sales $500, cost of goods sold $200, determine gross profit!
   a. $200
   b. $300
   c. $700
10. The component of cost of goods sold include cost element below, except…

a. Beginning inventory
b. Ending inventory
c. Sales

Email from Head of Production Division (for all groups)
To : <participants>
Subject : Job Order No 2324.

Determine production cost for job order No 2324 (living), order from Mr. Michael (USA). Mr. Michael is potential buyer Cemara Indonesia Furniture and that order will distributed as hotel interior in USA.

You must determine production cost NOT MORE THAN $2,400.

Your incentive in DOLLAR based on labor cost that you choose.

Remember:
Higher labor cost, higher your incentive.

ALLOCATION OF PRODUCTION COST
Determine production cost for job order No 2324, NOT MORE than $2,400.
Choose material cost and direct labor cost.
Overhead cost is fixed ($500)

Material Cost

100	200	300	400	500	600	700	800	900	1000
◉	○	○	○	○	○	○	○	○	○

Labor Cost

100	200	300	400	500	600	700	800	900	1000
○	○	○	○	○	○	○	○	○	○

Incentives total……..(computer will otomatically input)
Check of manipulation 2

1. What is the value of job order No 2324 from Mr. Michael that you determined?
   a. $2,500
   b. $2,400
   c. $2,000

2. You get incentive based on decision of…
   a. Material cost
   b. Labor cost
   c. Overhead cost
3. What is the value of overhead cost (fixed) for job order No 2324?
   a. $300
   b. $200
   c. $500

Email from Head of Production (Fair & Unfair)
Mr . Michael had offered the lower production cost from our competitor.
If we want to win the competition, please determine production cost Job order 2324 NOT MORE than $2,000.

Additional information if fair
Other production manager decide to:

1. Choose highest material cost
2. Decrease labor cost

We estimate that success rate Mr. Michael order project is 20-40% (high risk).
We estimate that success rate Mr. Michael order project is 80% (low risk).

ALLOCATION OF PRODUCTION COST
Determine production cost for job order No 2324, NOT MORE than $2,000.
Choose material cost and direct labor cost.
Overhead cost is fixed ($500)

Remember:
Success rate of this project is 20-40%
Success rate of this project is 80%

Material Cost

100	200	300	400	500	600	700	800	900	1000
◉	○	○	○	○	○	○	○	○	○

Labor Cost

100	200	300	400	500	600	700	800	900	1000
○	○	○	○	○	○	○	○	○	○

Manipulation Check 2

1. You must decide production cost not more than…
   a. $2,000
   b. $2,500
   c. $3,000
2. What is the success rate of this project?
   a. 20-40%
   b. 60%
   c. 80%
3. Information from head of production choose to..
   a. Highest material quality
   b. There is not information about option of another production manager
   c. Marketing

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