

Experimental Study: Negative Framing, Rigid Thinking and Commitment Escalation in Making Decisions

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ABSTRACT : *The aim of this research was to investigate the influence of rigid thinking on the level of commitment escalation in making decisions when experiencing negative framing. This study was an experimental research. The subject of this study was lecturers of the Faculty of Economics UIN Suska Riau with 2x2 Between Subject research design. Before performing real experiment, pilot tests were carried out on the instrument to test the validity and reliability. Hypothesis was tested by using analysis of variance. The results showed that the manager who did not have unrigid thinking will tend to make commitment escalation in making decision. However, this study was not able to prove that the manager would be likely to make a commitment escalation when the manager was in unrigid thinking conditions and experienced negative framing compared with the manager who was in rigid thinking conditions, but did not experience negative framing.*

Background

Commitment escalation occurs when an individual or organization chooses a series of measures to stay still despite being at a disadvantage, in this case an opportunity to survive or abandon the commitment is no longer possible due to the uncertainty in the action to continue or stop the decision (Staw, 1997). Escalation is often associated with behavioral waiver of failure signal. Ross and Staw (1986) states that the cause of the escalation phenomenon is the influence of some factors such as psychological, social, organizational, and project factors.

A person is more likely to use additional resources for poor investment if he is a person who originally support it. In fact, experimental evidence shows that to ask people to imagine that they are responsible to choose a failed effort make them more possible to increase commitment rather than to ask them to imagine that other people are responsible for investment (Kelly and Milkman, 2011). Dwita (2007) states that the commitment escalation can lead to greater losses for the company compared to the decision to stop the project immediately after the project shows a bad prospect. Commitment escalation could lead to bankruptcy of the organization or company.

Research on the commitment escalation makes self interest in agency theory as a major factor in economic decision-making by managers (Rutledge and Karim, 1999). However, the Noreen's study (1988) resulted that when a person has to take decisions related to the others' interests, not all people will only prefer personal interest but they will also consider the ethical or moral factors. This is consistent with the theory of *Cognitive Moral Development*, or CMD (Kohlberg, 1969) which showed that the decision-maker managers will tend to use ethical or moral considerations to limit the manager's economic behavior.

Research conducted by Irfan et. Al (2013) were able to find evidence that a manager who has *unrigid thinking*, would likely not proceed with the unprofitable project compared to the manager who does not have *rigid thinking*, will tend to avoid risk so that he will not proceed with the unprofitable project and managers who has *rigid thinking* would seek risk so he will proceed with the unprofitable project.

Agency theory offers an explanation of the escalation phenomenon. Research conducted by Harrison and Harrell (1993) developed a broader view of the decision-making framework based on agency theory. This view shows that managers in decision making is motivated by his own interests. Harrison and Harrell (1993) shows that managers who are in the condition of having private information will act in self-interest and not maximize profits expected by the company by continuing financing the project in spite of indicating a failure in the economic outlook.

There are many considerations that a manager considers in decision making processes, one of which is information *framing*. *Framing* is concerned with how people feel or make a decision (Main and Lambert in

Sahmuddin, 2003). Then Gasiaswaty (2009) mentions that the *framing* is closely associated with the reference point, a point that is used as a benchmark in comparison. In *framing*, this reference point is the frame for a person in considering the possibilities. The framed possibility will be evaluated by the decision maker.

In making decisions, a manager will be affected by his own character, one of which is *rigid thinking*. *Rigid thinking* can lead bias on the assessment. When an experienced manager is not able to map or solve a problem, the decisions taken by the managers tend to bias (Schwenk, 1984). In the literature on decision-making, *rigid thinking* is rigidity in thinking in decision-making process. The more difficult the decisions should be taken, the more rigid or narrower the way of thinking the manager has. The perception of the problem is becoming increasingly dichotomous, as if the only way out of the problem is the decision that he offers (Ylvisaker. Mark et al, 2013).

The theory used to test the framing bias is *The Prospect Theory*. This theory suggests that the frame adopted by a person can influence his decision. In this case when a decision maker is given an alternative decision which is framed in a positive way, his decision will tend to avoid risk. Meanwhile, when the information which is presented is negative, the decisions taken are likely to take risks (Yusnaini, 2005).

Some empirical evidence as demonstrated by Rudledge and Harrel (1994) and Rudledge (1995) also supports *the Prospect Theory* explanation. Regarding both theories, there have been many studies that seek to prove those two theories. Sharp and Salter (1997) found that *negative framing* does not affect the tendency of commitment escalation. Similar results were also found by Dwita (2007). She found that *negative framing* did not significantly indicate its influence on project evaluation decision by the manager. Furthermore, Gudono and Hartadi (1998) also found that the Indonesian people tend to be "more consistent" in looking at the value of money, in facing *negative* or *positive framing*, and in different behavior between Indonesian and Western people.

Formulation of the Problem

Based on the explanation above, the issues that will be investigated can be formulated as follows:

1. Will a manager who experienced *negative framing* give a positive influence on the level of commitment escalation in making decision?
2. Will a manager that has "*rigid thinking*" will give a positive influence on the level of commitment escalation in making decision?
3. Will a manager that has "*rigid thinking*" when experiencing *negative framing* give a positive influence on the level of commitment escalation in making decision?

Theoretical Study and Hypothesis Development

Decision Making Theory

Decision making as the process of choosing among the various alternative actions that affect the future. According to Stoner *et al.* (1995), he stated that the decision making is the process of identifying and selecting a series of measures to deal with specific problems or take advantage of an opportunity. Then, according to Kahneman and Tversky (1979), the decision is an act or options which have to be chosen, the consequences of actions and the conditional probability or contingencies related to the results of the action.

Rigid Thinking

Rigid thinking is a rigor in the process of thinking in making decision so that the more difficult the decisions that have to be made, the more rigid or narrow the way of thinking that the manager has. The perception toward the problem is becoming increasingly dichotomous, as if the only way out of it is the decision that he offered (Ylvisaker. Mark et al, 2013). Rigid thinking occurs when an individual is not able to consider all of the alternatives in the current situation, outlook or alternative solutions to a problem. A person who has rigid thinking tends to assume, generalize, and often react with fear or hostility in facing unexpected changes or challenges.

Rigid thinking in the *Guide to Mental Health* is categorized as one of the stress causes which is grouped into *mind traps* (Cigna Mental Health Care, 1997). A large number of studies have shown that *cognitive rigidity* is associated with unhealthy mental, for example, Dieserud, Roysamb, Ekeberg, and Kraft (2001); Dugas, Gagnon, Ladoceur, & Freeston, 1998, in Said (2002). There have been a large number of evidence that rigid people undergo unhealthy mind compared with the unrigid ones. According to *Cognitive Behavioral Theory*, rigid people have irrational or dysfunctional assumption which may not be commensurate with the fact that they face. *Cognitive rigidity* has two types: (1). How to face the of poor / negative situation, such as when confronting a situation that cannot be predicted or structured, and (2). the desire to have a systematic life (Said, 2002).

Framing

According to Suartana (2005), *framing* is a phenomenon that indicates that the decision makers will respond differently to the same problem if it is presented in a different format. Information *Framing* can influence a person in making decisions. Arnold (1997) describes that in the psychological literature, it is often mentioned that the way the information is presented to decision makers can influence the decision-making process itself.

In *prospect theory*, Kahneman and Tversky (1979) mentions that the framing presentation of various alternatives can affect the risk of the outcome of decisions made. From the perspective of managerial accounting, managers consider accounting information and make decisions that affect the future of the company. Initial interpretation of the information can specify additional information that will be considered when making decisions for the future.

From the auditing perspective, initial belief can determine the amount and type of information that needs to be collected to meet the evidence sufficiency in forming opinions regarding the good financial statements presentation. In the context of the decision for the project that indicates failure, the cost that have been incurred (*sunk cost*) acts as a reference point for managers in making decisions. The fact that the project is starting to show negative outlook brought some possibilities such as the possibility of loss / profit which is expected (losses / profits is still a possibility because of the assumption that the manager has not taken the decision yet to suspend / resume the project) and the possible future losses / profits which is still uncertain.

Negative Framing

Prospect theory (Kahneman and Tversky; 1979) describes the cognitive biases that affect decision making under uncertain and risky conditions. That the individuals will avoid or take depends on the problems. The theory states that individuals will give more excessive weight to a definitive result than an uncertain result.

These trends pose a risk avoidance behavior in certain profitable conditions (positive framing). In a positive framing, individuals showed a decrease in risk preferences, in which individuals are more cautious in making decisions. Conversely, individuals prefer the risk in the definite loss condition (negative framing). *Negative framing* is proxied by presenting information on a definite loss. The influence of a *sunk cost* turned out to be big enough in the decision making process to continue an investment that is considered less profitable.

Bateman and Zeithaml in Koroy (2008) states that when the information is presented in the negative framing decision, the decision makers tend to seek risk by continuing the project. In Rita's study (2012) she mentions that the *negative framing* is not capable of influencing the commitment escalation unless when it interacts with *adverse selection*.

Research Hypothesis and Research Model

Effect of *Negative Framing* to Commitment Escalation

In *prospect theory* (Kahneman and Tversky; 1979) mentions that the presentation (*framing*) of various alternatives can affect the outcome risk of the decisions made. Whyte (1986) mentions that the *sunk costs* influence managers to adopt *negative framing*. *Sunk costs* encourage risk seeking behavior which is manifested as a commitment escalation to a series of failed actions. When the *outcome* is described as a definite loss (*negative framing*), managers tend to take risks to avoid losses compared to the condition when the definite outcome is described as a definite profit (*positive framing*).

Yusnaini's Research (2005) mentions that the existence of bias influences the strategic decision makers due to the information framing. Bateman and Zeithaml in Koroy (2008) states that when the information is presented in the negative decision frame, decision makers tend to seek risk by continuing the project. Rita's research (2012) mentions that the *negative framing* is not capable of influencing the commitment escalation unless when it interacts with *adverse selection*. Yahya and Surya (2012) also found that the framing is able to escalate commitment. While Sharp and Salter (1997) found that *negative framing* does not affect the tendency of commitment escalation. From the description above, it shows that when a manager gets *negative framing* conditions, the manager will tend to take the risk.

H1: Managers will tend to escalate commitment when the manager has *negative framing*.

Effect of Rigid Thinking to Commitment Escalation Level

A manager in decision making will be influenced by the character it has, one of which is *rigid thinking*. *Rigid thinking* can lead bias on an assessment. When a manager who already has experience is not able to map or solve a problem, the decisions taken by the managers tend to bias (Schwenk, 1984).

In Kahneman and Tversky (1979) they state that the risk-seeking behavior towards the project is likely to suffer losses. Irfan et al (2013) found that he proves that a manager who has *unrigid thinking*, would likely not proceed with the unprofitable project compared to the manager who does not have *rigid thinking*. *Unrigid thinking* manager will tend to avoid risk so he will not proceed with the unprofitable project, and *rigid thinking* manager will seek risk so he will proceed with the unprofitable project. From the description above it shows that when a manager who has *unrigid thinking*, he will tend to take the risk compared to a manager who has *rigid thinking*.

H2: A manager will tend to escalate commitment when the manager is in *unrigid thinking* condition if compared with the manager who is in the *rigid thinking* condition.

The Effect of Rigid Thinking to Commitment Escalation Level in Decision Making When Experiencing Negative Framing

In the research of *rigidity and mental health* (Said, 2002) says that people who have high *rigid* tendency in his experience will increase faster in low mental conditions in response to the stressful life problems. In the literature on decision-making, *rigid thinking* is a rigidity in thinking for the decision-making process so that the more difficult the decisions taken, the more rigid or narrow the way of thinking a manager has. The perception toward the problem is becoming increasingly dichotomous, as if the only way out of it is the decision that he offered (Ylvisaker, Mark et al, 2013). In Kahneman and Tversky (1979) states that the risk-seeking behavior towards the project is likely to suffer losses, and risk aversion on projects are likely to gain profit.

A *rigid thinking* manager tends to think rigidly and bias in decision-making. The mindset of a *rigid thinking* manager will increasingly dichotomous, so that the decision he has in mind is the best and risk-averse decision. Whyte (1986) mentions that the *sunk costs* influence managers to adopt *negative framing*. *Sunk costs* encourage risk seeking behavior which is manifested as a commitment escalation to a series of failed actions.

From the description above, it shows that when a manager who is in *unrigid thinking* that experienced *negative framing*, he will tend to take the risk compared with a manager who is in *rigid thinking*, but did not experience any *negative framing*.

H3: A manager will tend to escalate commitment when he is in *unrigid thinking* conditions and experienced *negative framing* compared with the manager who is in *rigid thinking* but did not experience any *negative framing*.

Research methods

Research Design and Subjects

This study is an experimental research *design* with 2×2 *between subject*. Experiments are designed using two treatments in two different conditions, they are: the condition of experiencing *negative framing* and not experiencing any *negative framing*, and the condition of *rigid thinking* and *unrigid thinking*.

Experiment Design 2x2 Between Subject

		<i>Negative Framing</i>	
		Exist	Not Exist
<i>Rigid Thinking</i>	<i>Rigid</i>	<i>K1</i>	<i>K2</i>
	<i>Unrigid</i>	<i>K3</i>	<i>K4</i>

In this case, each participant will only experience one treatment conditions. It means that the treatment will vary among the participants, and the level of commitment escalation will be measured in each. The subject of this study is lecturers in the Faculty of Economics of UIN Suska Riau.

Research and Measurement Variable

The dependent variables that were observed in each treatment condition is the rate of commitment escalation. The effect is the manager who experienced *negative framing* and did not experience any *negative framing* and two treatments: *rigid thinking* and *unrigid thinking*. Instruments used in this research was adoption, adaptation and combined instruments of Rutledge and Karim (1999), Chong and Suryawati (2010) and Irfan et al. (2013) with some adjustments so that it would be more suitable with the actual conditions and the conditions in Indonesia.

Rigid thinking used instruments developed by Irfan et al. (2013), adapted from Thompson (1989) in Said (2002). *PNS Scale (personal need for structure)* instrument is an instrument that was designed to capture the motives of each individual who has a desire a more structured life. Then for *negative framing* variables, it used instruments adapted from Hodgkinson (1999) and *negative framing* was described in terms of a potential profit decline from the non-profitable project selection.

Validity and Reliability Instrument Test

To test the validity of the instrument, researchers first conducted a *pilot test* in the instrument that would be used in experiments. *The pilot test* involved students of Accounting Department of Economic and Social Sciences UIN Suska Riau. This procedure was performed to determine whether a case or treatment that would be given is understandable for the subject and to find out the errors that may be occurred in the design.

To achieve that, in this *pilot test* subjects were asked to give suggestions regarding the instruments used for the experiment. *Pilot tests* were also expected to show how to control environment that can disrupt the subjects' concentration and the time effectiveness in the experiment. Then to know whether the measuring instrument was completely reliable for consistent results, a reliability test was applied.

Data Analysis Tools

The study hypothesis was tested by *analysis of variance* to see the influence of *negative framing* conditions and *rigid thinking* in determining the commitment escalation level.

Results and Discussion

Subject

The study was conducted with 71 subjects who are the last semester students of Accounting Department UIN Suska Riau. From 71 subjects, there were 12 subjects who did not pass the manipulation check so that there were 59 subjects that was included in data processing. From 59 subjects which consisted of 21 men (35.6%) and 38 women (64.4%). Subjects with the majority age between 30 and 40 years were 44 subjects (74.6%), less than 30 years were 2 subjects (3.4%), and over 40 years were 13 subjects (22%).

Group Statistics

Rigid Thinking	N	Mean	Std. Deviation	Std. Error Mean
Group I	30	4.82	0.672	0.138
Group II	29	4.24	0.643	0.129

Based on descriptive statistics table above, it is known in *rigid thinking* subject is known that the mean *rigid thinking* subject between the *rigid thinking* and not *rigid thinking* in this study did not differ significantly far. The mean of the *rigid thinking* subjects is 4.82 and the mean of not-*rigid thinking* is 4.24.

Independent Samples Test

Rigid Thinking	Levene's Test for Equality of Variances	
	F count	Significance
<i>Equal variances assumed</i>	1.782	0.165

From the table above, it is also noted that the *Levene's test* result of subjects in this study were not significant and greater than *p-value* 0.05, it means that the population of the subject had the same variance.

Hypothesis Testing Results.

The study was divided into four cells of the 2x2 *between subject* design. The subjects were divided into four cells, and each subject got one treatment.

Tests of Between-Subjects Effects

Dependent Variable: Commitment Escalation			
Source	Degree of Freedom	F Count	Significance
Corrected Model	24	6.774	0.000
Intercept	1	545.768	0.000
<i>Negative Framing</i>	23	2.023	0.016

This study has first hypothesis: Managers will tend to escalate commitment when the manager has *negative framing*. The result of ANOVA test shows that the *p-value* < 0.05 indicates that the first hypothesis is supported: Managers will tend to escalate commitment when the manager has *negative framing*. This result indicates that the manager would likely to continue the unprofitable project despite the *negative framing*.

This result is consistent with research conducted by Whyte (1986), Yusnaini (2005), Bateman and Zeithaml and Koroy (2008) and Rita (2012). In Whyte's study (1986) it mentions that the *sunk costs* influence managers to adopt *negative framing*. *Sunk costs* encourage risk seeking behavior which is manifested as a commitment escalation to a series of failed actions. When the *outcome* is described as a definite loss (*negative framing*), managers tend to take risks to avoid losses compared with when the definite outcome is described as a definite profit (*positive framing*).

Research conducted by Yusnaini (2005) mentions that the existence of bias influences the strategic decision makers due to the information framing. Bateman and Zeithaml in Koroy (2008) states that when the information is presented in the negative framing decision, the decision makers tend to seek risk by continuing the project. In the study Rita (2012) mentions that the *negative framing* is not capable of influencing the commitment escalation unless when it interacts with *adverse selection*. *Prospect theory* also explains why managers adopt *negative framing* on escalation decision, *sunk costs* also encourages managers to consider the escalation option (Kahneman and Tversky; 1979). It is seen that managers tend to be bold in taking risks (*risk seeking*).

This study also predicts that the manager will tend to escalate commitment when the manager is in *unrigid thinking* condition compared with the manager who is in *rigid thinking*.

Tests of Between-Subjects Effects

Dependent Variable: Commitment Escalation			
Source	Degree of Freedom	F Count	Significance

Corrected Model	24	6.774	0.000
Intercept	1	545.768	0.000
Rigid Thinking	19	2.665	0.048

ANOVA test results shows that the *p-value* of <0.05 indicates that the second hypothesis is supported: a manager will tend to escalate commitment when the manager is in *unrigid thinking* condition if compared with the manager who is in the *rigid thinking* condition.

This result is contrasts with the previous researches. Previous studies proved that Irfan et al (2013) found that he proves that a manager who has *unrigid thinking*, would likely not proceed with the unprofitable project compared to the manager who does not have *rigid thinking*. Unrigid thinking manager will tend to avoid risk so he will not proceed with the unprofitable project, and *rigid thinking* manager will seek risk so he will proceed with the unprofitable project.

From the results above, it shows that *unrigid thinking* managers will tend to continue the unprofitable project than the *rigid thinking* manager. This is consistent with the literature on decision making which states that *rigid thinking* is a rigidity in thinking for the decision-making process so that the more difficult the decisions taken, the more rigid or narrow the way of thinking a manager has. The perception toward the problem is becoming increasingly dichotomous, as if the only way out of it is the decision that he offered (Ylvisaker, Mark et al, 2013 in Irfan et al 2013). The *rigid thinking* manager will be difficult to make decisions when facing the possibility of large losses (*risk aversion*).

The third hypothesis in this study mentions that a manager will tend to escalate commitment when he is in *unrigid thinking* conditions and experienced *negative framing* compared with the manager who is in *rigid thinking* but did not experience any *negative framing*.

Tests of Between-Subjects Effects

Dependent Variables: Commitment Escalation			
Source	Degree of Freedom	F Count	Significance
Corrected Model	24	6.774	0.000
Intercept	1	545.768	0.000
Rigid Thinking* Negative Framing	15	1.514	0.125

Results of ANOVA test shows that the *p-value* > 0.05 indicates that the third hypothesis is not supported, namely: a manager will tend to escalate commitment when he is in *unrigid thinking* conditions and experienced *negative framing* compared with the manager who is in *rigid thinking* but did not experience any *negative framing*.

The result above shows that the *unrigid thinking* manager who experiences *negative framing* will tend to stop the unprofitable projects than the *rigid thinking* manager who does not experience any *negative framing*. In this case it can be concluded that the manager who is in *unrigid thinking* and experiencing *negative framing* will tend to be *risk-aversion* than the manager who is in *rigid thinking* and not experiencing any *negative framing* is likely to be *risk-seeking*. In the literature on decision making which states that *rigid thinking* is a rigidity in thinking for the decision-making process so that the more difficult the decisions taken, the more rigid or narrow the way of thinking a manager has. The perception toward the problem is becoming increasingly dichotomous, as if the only way out of it is the decision that he offered (Ylvisaker, Mark et al, 2013 in Irfan et al 2013).

From the theory above, it is seen that there is a cons between the second and the third hypothesis. The second hypothesis was able to prove that the *rigid thinking* manager will be more difficult in decision-making when facing an unprofitable project than the *unrigid thinking* manager. While the third hypothesis proves that the *rigid thinking* manager who does not experience any *negative framing* will be easier in making decision when facing an unprofitable project than the *rigid thinking* manager who does not experience *negative framing*.

This different result occurs because of the possibility of a proxy manager to the inexperienced lecturers of the Faculty of Economics UIN Suska Riau in making decision. The next possibility is because researchers were not able to control the entire bias in the research.

Conclusion

This study sought to examine the effect of *rigid thinking* managers in making decision and the effect of the level managers' commitment escalation to the company after experiencing *negative framing*. This study predicts that the *unrigid thinking* manager who experiences *negative framing*, will tend to escalate commitment than managers who does not experience these conditions.

Results of statistical *analysis of variance* test showed that a manager who experienced *negative framing* will tend to escalate commitment. These results indicate that the manager will be able to make decisions when facing an unprofitable project. The study also predicts that the *unrigid thinking* manager, will tend to the escalate commitment if compared with the *rigid thinking* manager. The results of this study were able to prove the previous prediction. These results prove that the *unrigid thinking* manager will tend to escalate commitment. This shows that *unrigid thinking* managers will continue the unprofitable projects profitable if compared with the *rigid thinking* manager.

However, this study was not able to prove that the manager will not tend to perform the commitment escalation when the manager is in *unrigid thinking* condition and experiencing *negative framing* in comparison with the *rigid thinking* manager who is does not experience *negative framing*. It is seen that the *unrigid thinking* manager will tend to avoid risk (*risk aversion*) and the *rigid thinking* manager will seek risk (*risk-seeking*).

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