

# The Effect of Attribution Bias and Framing Negative on Commitment Escalation in Investment Decisions

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## ABSTRACT

The purpose of this study was to examine the extent of the effect of attribution bias on commitment escalation and the effect of negative *framing* on commitment escalation in investment decisions of *Small and Micro Enterprise* (SMEs) in West Sumatra. The total respondent of this study was 90 respondents. Data collection technique used was questionnaire. The data was analyzed by using one way Analysis of Variance (ANOVA) using IBM SPSS Statistics 26 software. There is no difference in the commitment escalation, whether the decision maker links the cause of the project error with internal factors or the decision maker that causes the project error with external factors. Decision makers are more likely not to escalate commitments or prefer to delay project operations.

**Keywords:** *Commitment escalation, attribution bias, negative framing, investment decisions*

## 1. INTRODUCTION

In contrast to large companies, the main purpose of SMEs is not to maximize shareholder wealth (Danielson & Scott, 2006). However, the purpose of SMEs is to maintain the survival of the company (Danielson & Scott, 2006). One of the main factors for the sustainability of an SMEs (and all business scales) is capital. But unfortunately SMEs have obstacles to capital market imperfections that limit their financing options (Danielson & Scott, 2006).

SME capital limitations are caused by SMEs mostly relying on internal funds, or cash from friends and family (The World Bank, 2020). This is one of the most common obstacles encountered by SMEs (The World Bank, 2020). Many SMEs are in debt with third parties, leading to bankruptcy because they keep on trying to add resources allocation to a project that is allegedly causing losses. In the 2015 to 2018 period, 1.7 million SMEs had gone bankrupt in Indonesia (Setianingrum, 2019).

When an SME manages to get capital to grow, of course it takes a great effort so that the capital produces profits. The results are re-budgeted to finance SMEs operations in order to develop. This activity is also called capital budgeting.

Brigham & Houston (2013) explained that capital budgeting is the entire process of project analysis and deciding which to include in the capital budget. Capital budgeting is very important for company growth (Brigham and Houston, 2013). The growth of a company and its ability to be competitive in order to survive depends on a constant flow of ideas related to new products, improvement of existing products, and ways of operating more efficiently (Brigham & Houston, 2013). So that well-managed companies try hard to develop good capital budgeting proposals (Brigham & Houston, 2013). Research on capital budgeting so far has focused more on capital budgeting of large companies (Danielson & Scott, 2006).

While the small companies have not been revealed.

According to Paramasivan & Subramanian (2009), the importance of capital budgeting in financial management due to the company's need to control capital expenditure. In addition, it is also because capital expenditure that is long-term and has high risks and capital investment decisions is difficult to change (Paramasivan & Subramanian, 2009). Capital budgeting will increase long-term income and bring significant changes in company profits. Therefore, prior to investing an appropriate project planning and analysis is needed (Paramasivan & Subramanian, 2009).

In fact SMEs often ignore the process of capital budgeting (Gveroski & Jankuloska, 2017). Though this is a very crucial process that will affect the sustainability of the company's operations. The investment decision making process is a complex and dynamic process that involves the analysis of all factors (financial, market, technical, technological, location, and social), predicting various alternatives, understanding, and evaluating their impact (Gveroski & Jankuloska, 2017). The difference in business scale will affect the different procedures of evaluating the feasibility of investment projects (Gveroski & Jankuloska, 2017).

Especially for SMEs synonymous with limited capital and very significant impact only with a small mistake in investing. Differences in contrast between SMESs and large companies are in the possibility of small access to finance, opportunities and ability for planning owned by SMESs tend to be short-term oriented in operation (Gveroski & Jankuloska, 2017).

SMESs are demanded to always innovate and be active in rotating business capital in order to continue developing. Corporate development is one of the basic principles, and the most important part of the development process is investment (Gveroski & Jankuloska, 2017). After analyzing the capital budgeting, an investment decision will be obtained. Investment decisions are one of the most important decisions for financial management

which are the responsibility of financial managers (Afriyeni, 2012).

The context of investment decisions is a situation when resources are allocated to one alternative decision that is prioritized over another and the level of these resources can be increased or reduced at the discretion of the decision maker (Staw, 1976). When investing decision makers are faced with negative consequences (such as losses and project failures), it is often possible for decision makers to increase resource commitments and run the risk of additional negative outcomes to justify previous behavior or demonstrate the rationality of initial actions (Staw, 1976). This means that because of the need to justify the previous behavior, the decision maker will increase his commitment in dealing with negative consequences and will ultimately lead to negative consequences that are sustainable.

This is what underlies the phenomenon of behavioral bias known as commitment escalation. In the context of financial management, although it may not seem obvious, this behavioral bias has a role in capital budgeting (Keown, Marthin, Petty, & Scott, 2005). Any action that violates standards such as behavioral bias can cause loss of trust, which in turn can have a negative impact and long-term impact on the company (Keown et al., 2005).

Previously in other contexts have been discussed by Frestinger in 1957 and Aranson in 1968 as a process of self-justification where individuals try to rationalize their previous behavior or in short defend themselves against adverse consequences (Staw, 1976). Over the past 40 years, the topic of commitment escalation research has evolved. However, as a complex phenomenon, opportunities are still open to collaborate on a number of related theories (Juniarti, 2015).

Many factors in the psychology group are related to commitment escalation, including attribution bias and framing. Researchers chose these two variables because they were considered the closest relationship to financial management at SMESs. Considering that previously it was explained that the most

common SME problem was capital constraints. Commitment escalation studies in previous investment decisions have discussed attribution bias, namely research conducted by Tine (2013). Likewise, framing has been discussed by Arimawan & Sukirno (2014), Dwita (2007), Kerler, Fleming, & Allport (2014), Levin, Gaeth, Evangelista, Albaum, & Schreiber (2001), Levin, Schneider, & Gaeth (1998), and Sari & Wirakusuma (2017). However, no discussion has yet been found about its effects on SMESs. Most previous studies have experimented with undergraduate and master students or managers in large companies that were asked as if they were in a decision-making position.

Attribution is a process used by individuals to explain the causes of behavior and events (Heider, 1979). Self attribution bias is the tendency to link positive results with one's own abilities, while negative results are associated with external forces or bad luck (Shefrin, 2007 in Baker, Kumar, & Singh, 2018). The concept of attribution often overlaps with the locus of control, but basically the two are different. Locus of control is the level where individuals have the belief that they have control over the outcome of events in their lives (Lee-Kelley, 2006). Thus, attribution is more to a person's motivation to determine the cause of an action while locus of control refers to belief in what controls the outcome of an event.

Negative framing is framing information that highlights negative aspects (Levin et al., 1998). Previous researchers have also raised many of these factors such as Arimawan and Sukirno, 2014, Dwita, 2007, Kerler, Fleming, and Allport, 2014, Levin, Gaeth, Evangelista, Albaum, and Schreiber, 2001, Sari and Wirakusuma, 2017. Results from research still varied, as Dwita (2007) states that negative framing has no effect on the escalation of commitments, but Arimawan and Sukirno, (2014), Sari and Wirakusuma, (2017) and Sharp and Salter (1997) say they have influence. The researcher is interested in further testing whether the investment information presented in the negative statement will affect the escalation of

decision-making commitments at SMESs in West Sumatra.

The formulation of the problem in this study are (1) How do the comparison in commitment escalation between decision makers who have internal bias with decision makers who have external attribution bias? (2) How does the comparison of escalation of commitment between decision makers who are given investment information using negative framing with decision makers who are given investment information without negative framing?. The purposes of this study is (1) To determine the comparison of the tendency of escalation of commitments between decision makers who have internal attribution bias and decision makers who have external attribution bias, (2) To determine the comparison of the trend of escalation of commitments between decision makers who were given investment information using negative framing and decision makers who were given investment information without negative framing.

## 2. METHODS

The total number of respondents in this study is 90 respondents. The data were collected by using questionnaires from Tine (2013) for attribution bias variable and Sharp & Salter (1997) for negative framing variable. The research design used was quasi-experimental. The study was designed in the form of factorial 2x2 with 4 treatments. The independent variable consists of attribution bias and negative framing. The dependent variable is the commitment escalation in investment decisions. The independent attribution bias variable is manipulated in two situations adapted from Tine (2013), namely internal attribution bias and external attribution bias. While negative framing variables are manipulated in the form of "with negative framing" and "without negative framing" which was adapted from the research of Sharp and Salter (1997).

**Tabel 1** Desain Faktorial 2x2

		Attribution Bias	
		Attribution bias Internal	Attribution bias Eksternal
Framing	With Negative Framing	A	B
Negatif	Without Negative Framing	C	D

This research uses quantitative data. The data used are primary data, i.e. raw data without interpretations or statements that represent opinions or official positions (Cooper & Schindler, 2008). Data sources were obtained from distributing questionnaires to SMEs decision makers in West Sumatra. The questionnaire was distributed directly by visiting one by one respondent to their residence or outlet. The questionnaire was also sought online by sending a link through social media to respondents who had been previously determined (according to criteria).

This study was divided into 4 types of questionnaires, namely questionnaires A, B, C, and D. Each questionnaire consisted of 3 parts. The first part contains questions about self data and the data of SMEs that are carried out. This section contains the same questions for each questionnaire. The data included name, age, last education, gender, sector of SMEs, location, duration of operation (year), origin, ethnicity, and religion. The second part is opened first with questionnaire instructions. After that, it goes to the case illustration bias. Then the respondent is given a manipulation check question. The question aims to ascertain whether the treatment given by the researcher is successful and the respondent truly understands the case illustration.

Next to the third part, the scenario is directed at testing the effect of negative framing. The negative framing treatment is also given a manipulation check question. The purpose of this manipulation check question is to ascertain whether the negative framing treatment was successfully understood by respondents.

The effect of the independent variables on the dependent variable is measured using a likert scale. Likert scale contained in the

questionnaire was set as many as 6 scales namely 1-6. The attribution bias variable is measured using questionnaires A, B, C, and D, each consisting of illustrations of internal attribution bias and external attribution bias cases that have a relationship with commitment escalation. Internal bias is given a symbol number 1, and external bias attribution is given a symbol number 0. Negative framing is assessed using a nominal scale where there is negative framing given the symbol number 1 and no framing is given the symbol number 0.

The statistical analysis carried out was a normality test, a homogeneity test, and a hypothesis test. However, because there are differences in the two groups of data (data taken online and data taken directly) an independent sample T-test is also carried out.

### 3. RESULTS AND DISCUSSION

Each respondent directed to pay attention to the things that are important points of the questionnaire. But there are still some respondents who did not pass the manipulation check. Manipulation check is useful to indicate whether the respondent understands the case given, and the manipulation provided by the researcher is successful. There are 78 respondents who passed the manipulation check one or between. The are 33 respondents did not pass the manipulation checking the attribution bias, so that the total response that could be completed for processing the attribution bias was 57 responses. As for the negative framing variable as many as 22 respondents did not pass the manipulation check, it takes as many as 68 responses that can be completed in processing negative framing data.

In table 2 it can be seen that the number of male respondents is balanced by the number of female respondents by 39 people. The most dominant educational background is

undergraduate. The average SMEs in this research is located in Padang. Meanwhile most respondents also came from the city of Padang.

**Tabel 2** Demographic Data

Demographic Data	Total
Responses Rate	90
Responses can be used	78
Gender :	
Man	39
Woman	39
Age (mean)	37,5
Educational Background :	
Senior High School	18
Diploma	8
Undergraduate	44
Master	8
SMEs Location :	
Padang	64
Pesisir Selatan	3
Payakumbuh	2
Kabupaten Solok Selatan	2
Kabupaten Solok	2
Padang Pariaman	1
Lima Puluh Kota	1
Bukittinggi	1
Tanah Datar	1
Agam	1

Normality test results for the attribution bias variable on data collected online get a significance value of 0,000 which means less than 0.05. So it can be concluded that the data on the attribution bias variable is not normally

distributed. Likewise on the negative framing variable data collected online which results in significance values of 0,000 and 0.003. This value is smaller than 0.05. So it can be concluded that the data on negative framing variables are also not normally distributed.

**Tabel 3** The Results of Normality Test for Data Collected Online

	Attribution Bias	Kolmogorov-Smirnov			Negative Framing	Kolmogorov-Smirnov		
		Statistics	Df	Sig.		Statistics	Df	Sig.
Eskalasi	Internal	0,289	19	0,000	With	0,362	21	0,000
Komitmen	External	0,269	13	0,000	Without	0,254	18	0,003

Table 4 shows that the normality test results for the attribution bias variable in data collected directly get a significance value of 0,000, which

means it is smaller than 0.05. So it can be concluded that the data on the attribution bias variable is not normally distributed. Likewise on

the negative framing variable data collected directly which results in significance values of 0,000 and 0.016. This value is smaller than 0.05. So it can be concluded that the data on negative

framing variables are also not normally distributed.

**Tabel 4.** The Results of Normality Test for Data Collected Directly

	Attribution Bias	Kolmogorov-Smirnov			Negative Framing	Kolmogorov-Smirnov		
		Statistics	Df	Sig.		Statistics	Df	Sig.
Eskalasi Komitmen	Internal	0,329	13	0,000	With	0,381	13	0,000
	External	0,285	12	0,008	Without	0,238	16	0,016

The normality test is a prerequisite rather than the one way ANOVA test used to test the hypothesis. In this study. Normality test is difficult to fulfill in practice (Gunia, Sivanathan, & Galinsky, 2009). In this study, researchers will use a solution to do the one way Anova parametric test coupled with the non-parametric Kruskal Wallis test. Kruskal Wallis non parametric test is generally used by researchers as an alternative to the ANOVA test when one

or all of the data distribution is not normally distributed (SPSS Indonesia, 2018).

Homogeneity test results of data collected online obtained for the attribution bias variable are 0.689 and for the negative framing variable is 0.015. So it can be concluded that the attribution bias variable data collected online is the same or homogeneous. While negative framing variable data collected online is not homogeneous.

**Tabel 5** The Results of Homogeneity Test for Data Collected Online

Variabel	Levene Statistics	Sig.
Attribution Bias	0,163	0,689
Negative Framing	6,516	0,015

Meanwhile, homogeneity test results collected directly data obtained for the attribution bias variable amounted to 0.408 and for negative framing variables amounted to

0.792. So it can be concluded that the attribution bias variable data collected directly is the same or homogeneous.

**Tabel 6** The Results of Homogeneity Test for Data Collected Directly

Variabel	Levene Statistics	Sig.
Attribution Bias	0,710	0,408
Negative Framing	0,071	0,792

The hypothesis test results using one way ANOVA significance value of the variable

attribution bias is worth 1.000 which means greater than 0.05. This conclusion is almost the

same as the results of the Kruskal Wallis test which yielded a significance value of 0.819. So it can be concluded that the data collected online H1 was rejected. In the data collected online, there is no difference in the tendency to escalate commitments between decision makers who

attribute project errors to internal factors and decision makers who attribute project errors to external factors.

**Tabel 7** The Results of Hypothesis Test of Data Collected Online

<i>One Way Anova</i>			
	<i>Mean Square</i>	<i>F</i>	<i>Sig</i>
<i>Attribution Bias</i>	0,000	0,000	1,000
<i>Negative Framing</i>	8,791	2,985	0,092
<i>Kruskal Wallis</i>			
	<i>Mean Rank</i>	<i>Asymp Sig</i>	
<i>Internal Attribution Bias</i>	16,21		
<i>External Attribution Bias</i>	16,92	0,819	
<i>With Negative Framing</i>	22,07		
<i>Without Negative Framing</i>	17,58	0,200	

Furthermore, the negative framing variable obtained significance value through one way ANOVA 0.092. This value is greater than 0.05. Similarly, the significance value obtained from the Kruskal Wallis test is equal to 0.200. So it can be concluded that H2 is rejected. In the data collected online there is no difference in the tendency of escalation of commitments to decision makers who are given investment information using negative framing with decision makers who are given investment information without negative framing.

The negative framing variable in the data collected directly obtained significance results of 0.081 through one way Anova test. While through the Kruskal Wallis test a significance value of 0.023 was obtained. There are differences in results because in the One Way Anova test the significance value is greater than 0.05. While in the Kruskal Wallis test the significance value is smaller than 0.05. However, because the data of this study previously did not meet the pre-requisite test (normality test) for

The significance value for the attribution bias variable data collected directly obtained through the One Way Anova test is 0.850. While the significance value obtained through the Kruskal Wallis test is 0.058. These values are both greater than 0.050. So it was concluded that H1 for data collected directly was rejected. There is no difference in the tendency to escalate commitments between decision makers who attribute project errors to internal factors and decision makers who attribute project errors to external factors to data collected directly.

one way Anova, the conclusion drawn was the Kruskal Wallis test, that is, H2 on the data collected was directly accepted. There is a difference in the tendency of escalation of commitment to decision makers who are given investment information using negative framing with decision makers who are given investment information without negative framing on data collected directly.

**Tabel 8 The Results of Hypothesis Test for Data Collected Directly**

One Way Anova				
	Mean Square	F		Sig
Attribution Bias	12,074	3,241		0,850
Negative Framing	8,618	3,292		0,081
Kruskal Wallis				
	Mean Rank			Asymp Sig
Internal Attribution Bias	15,62			
External Attribution Bias	10,17			0,058
With Framing Negative	18,85			
Without Framing Negative	11,88			0,023

The results of this study state that there is no difference in the tendency of escalation of commitment between individuals who associate the cause of project error with internal factors or individuals who associate project error with external factors.

This study is in line with the study of Tine (2013). However, the results of this study refute self-justification theory which is the basis for researchers in making hypotheses. The results of previous research also disputed by the results of this study are the studies conducted by Staw (1976) and Baker et al., (2018). Research Baker et al (2018) on SMEs in India states that individuals tend to make self-attribution.

There are several possibilities that cause the results of this research do not match the existing theory. The first possibility is the way researchers develop research instruments. The scenario of the research instrument states that the time needed to correct project errors is 3 months. This statement is expected to encourage respondents to prefer to re-evaluate the project and delay operations. Respondents might think that doing so will reduce consumers' dissatisfaction and improve their image. However the internal causes determined in the scenario tell the respondent that the error that occurred was a result of the lack of respondent supervision in managing the IT team and the respondent's efforts were not optimal.

Some respondents were asked why they would prefer not to start project operations on

schedule in the event of a project error. Most argue that consumer dissatisfaction is more important. So it is better to postpone the operation and evaluate so that no customer is dissatisfied. Although the researchers' findings are not in line with the theory, this finding is very interesting. This discovery will contribute to the line of research that refutes self-justification theory of the escalation of commitment.

For negative framing variables, there are two different results namely from the data group collected online with the data group collected directly. In the data taken online the conclusion is that there is no difference in the tendency of escalation of commitment between decision makers who are given investment information using negative framing and decision makers who are given investment information without negative framing. While the data collected directly concluded that there were differences in the tendency of escalation of the commitment. Decision makers who are given investment information using negative framing are more likely to escalate commitments than decision makers who are given investment information without using negative framing.

The difference in the results of this study in the two data groups can be caused by the way the data was collected. Respondents who fill out online questionnaires may not pay too much attention to investment information sentences and fill in in a hurry. But the conclusions in this



data group are in line with the results of Dwita's (2007) research.

The results of research on data collected directly support the prospect theory that was previously used as a basis in making hypotheses. This is also in line with the results of research by Arimawan and Sukirno (2014), Sari and Wirakusuma (2017) and Sharp and Salter (1997). But the results of this study are not in line with the research results of Dwita (2007). This research contributes to the range of research that supports prospect theory.

As explained in the prospect theory, individuals who receive investment information presented with negative framing will tend to choose to bear risk (risk seeking). While individuals who receive investment information without negative framing would prefer not to assume risk (risk averse).

The experience of SMEs owners in making decisions plays a role in this regard. SMEs owners are certainly used to the choice of profit or loss. But the language in which investment information is presented also influences them in making decisions. SMEs owners who were respondents in this study tended to see opportunities for profit even though only 25%.

The results of this study have several implications. First, researchers explore the role of attribution and reliability of negative framing as a potential factor in influencing the escalation of commitment. Second, the researcher provides evidence that attribution (although slight) is a cognitive bias that can also influence decision making. Third, this study provides a better

understanding of the influence of attribution and negative framing in influencing the commitment escalation so as to facilitate the development of related research models in the future.

#### 4. CONCLUSION

The results of this study can be concluded as follows:

1. There is no difference in the comparison of escalation of commitment, whether the decision maker links the cause of the project error with internal factors or the decision maker that causes the project error with external factors.
2. Decision makers are more likely not to escalate commitments or prefer to delay project operations.
3. There are differences in results if the questionnaire is filled in online and the questionnaire is filled in directly for the negative framing variable.
4. In data collected online, there is no difference in the comparison of escalation of commitment between decision makers who get investment information using negative framing and decision makers who get investment information without negative framing.
5. In data collected directly, decision makers who are given investment information using negative framing will be more likely to escalate commitments than decision makers who are given investment information without using negative framing.

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