

An Experimental Investigation of the Influence of Affect on Capital Budgeting Decision

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Abstract: Capital budgeting is very important to firms. Interpersonal relationships are characteristic of many capital budgeting contexts, and theses relationships can lead to emotional affective reactions. Drawing on relevant work in neurobiology and psychology, we predict that these affective reactions can influence individual's capital budgeting decisions, and that the influence of these affective reactions on team's capital budgeting decision is not notable. In this paper, we research the impact of affect on capital budgeting decision alternatives that elicit negative emotional affects, and that the influence of affect on team's capital budgeting decision is not notable.

Keywords: Affect, Capital budgeting, Individual decision making, Team decision making

1. Introduction

Capital-budgeting activities are critical to a company's long-term performance. Traditional approaches to capital budgeting emphasize the expected value of investment alternatives, where managers analyze various alternatives and select the one with the highest expected value. However, capital-budgeting decisions are not made in a vacuum, and therefore other non-financial information may come into play. Since interpersonal relationships are often present in capital-budgeting contexts, managers may consider their interactions with other individuals when making such decisions. Psychological research indicates that interpersonal relations will often generate affective reactions. Hence, interpersonal affective reactions are apt to be prevalent in capital-budgeting contexts. Our premise is that these affective reactions are likely to systematically influence managers' capital-budgeting decisions.

To understand how capital-budgeting decisions can be systematically influenced by affective reactions, we conducted an experiment that was designed to elicit negative emotional reactions such as frustration and anger. The information was constructed so that managers would have a negative affective reaction toward an individual associated with one of the capital-budgeting alternatives. Our experimental results indicate that affect significantly influences managers' individual decisions, but the influence of affect on team decision making is smaller than on individual decision making. Our results are important because they indicate that to more fully understand decision making in accounting contexts, the joint impact of affect and cognition on decision processes should be considered.

The next section discusses background literature on affect and the role of affect in capital budgeting. The method and results of the experiment are then presented, followed by the concluding remarks.

2. Literature and hypothesis

Affect is a general term that refers to reactions such as emotions and moods. Emotional responses refer to a complex assortment of affective reactions that go beyond simple positive/negative reactions. For example, emotions include responses such as anger, happiness, frustration, joy, and anxiety. This paper is concerned with the impact of such emotional affect on



capital-budgeting decisions. While cognition and emotion are typically viewed as separate features of the mind, evidence is accumulating in neuroscience and psychology that suggests that affective reactions are an integral component of decision processes.

Perhaps the most compelling evidence for the importance of affect in decision processes comes from neurobiological research. Neurobiological findings suggest that emotional reactions provide a mechanism that helps us evaluate and react to the outcomes of our decisions. For example, feeling negative affect from a dysfunctional decision provides significant feedback to help avoid repeating the decision in the future.

Capital-investment decisions are recognized as critical to the long-term success of most businesses. Prior research has investigated various factors that influence capital-budgeting decisions. For example, the effects of information asymmetry between managers and owners have been addressed in models of the capital-budgeting process (Harris and Raviv 1996)^[1]. These models propose that asymmetric information can lead to under- and overinvestment in certain projects, and to the selection of projects having a lower net present value. Studies also have experimentally examined the effects of information load and information sharing on capital-investment decisions. These studies show that increases in load can influence the variability of information sought across investment alternatives, and that information sharing among team members can have a positive effect on performance (Chalos and Poon 2000)^[2]. This research has not addressed the role of interpersonal relationships on capital investment decisions, even though such relationships are prevalent in capital-budgeting contexts. The interactions among members of a firm can lead to emotions such as frustration and anger. For example, if a manager feels unfairly treated or wronged by another divisional manager in the firm, he or she may experience feelings of frustration or anger toward that person. Such reactions could result from a manager believing

that the other individual is undermining the project, attacking his or her credibility or competence, not offering fair transaction prices, and so on. Research in psychology and behavioral decision making supports the idea that affective reactions are likely to occur from interpersonal relations. Research also shows that members of organizations often experience strong emotions toward one another, and that individuals are motivated to avoid negative emotional reactions (Strack and Neumann 1996)^[3]. Therefore, managers' affective reactions to interpersonal relationships in a capital-budgeting context may be an important component in their investment decision making.

Given the foregoing, we propose that affect should be considered to fully understand decision making in accounting contexts. Given that interpersonal relationships can lead to affective reactions, and such relationships are characteristic of many capital-budgeting contexts, we argue that affect can influence capital-budgeting decisions. Since research indicates that negative affect may be particularly salient to decision makers (Damasio 1994)^[4], we focus on negative emotional affects in this paper. The following hypothesis is tested:

HYPOTHESIS 1. Affective reactions will have an impact on capital-budgeting decisions, such that managers will tend to avoid decision alternatives that elicit negative emotional affects.

HYPOTHESIS 2. The influence of affect on team decision making is smaller than on individual decision making.

3. Method

A total of 109 students from Chongqing Technology and Business University served as subjects. 23 subjects made individual decision in the scenario to elicit negative emotional reactions. 63 subjects made team decision in the scenario to elicit negative emotional reactions. There 3 subjects in a team. The control subjects made individual decision in the scenario without negative emotional reactions. There



were 23 subjects in the control group.

The decision scenarios were designed to elicit negative emotional reactions such as frustration and anger. The subjects first received background information concerning the decision context as well as information designed to elicit a negative emotional response in the experimental groups. For example, the subjects were told that they were a divisional manager who was deciding between two product investments. Each investment alternative would require working with a different sister division run by two different managers within their company. The information emphasized that both divisional mangers had strong reputations for producing high-quality products on a timely basis, and explicitly stated that either project would be successfully completed if chosen. The experimental subjects also received information that would normally lead to negative feelings like frustration and anger toward the divisional manager associated with one of the investment alternatives. That is, subjects were given information that led them to believe that the manager was quite arrogant and condescending in interactions. To elicit a negative affective reaction, subjects were told that the manager of one of the divisions was disorganized, complained about unrelated issues during production meetings, and was often late for meetings. This affective information was therefore more closely related to the manager's work habits on the project. However, subjects were told that all costs, including costs associated with potential delays, were built into their cost accounting department's estimates. Once again, they were also told that either investment alternative would be successful and be completed on time if chosen.

After reading the background information, the subjects received financial information in the form of cash flow projections. The neutral alternative (A) and the negative affect alternative (B) offered same expected value. A three-year forecast was given, which included a base-case, best-case, and worst-case scenario for each of the alternatives. The base case indicated the most likely net cash flow, with an estimated 60 percent probability of occurring. The base case for two alternatives was 520,000. The best-(worst-) case scenario was the highest (lowest) net cash flow that might occur. Both the best and worst cases were estimated to have a 20 percent probability of occurring. The best case for the negative affect and neutral alternative was 735,500 and 735,000, respectively, while the worst case was 439,500 and 440,000, respectively.

Control subjects responded to the investment decision without the information designed to elicit an affective response. They received the financial data in the same format as the experimental groups. That is, they received the same type of information presenting the cash flow information for the two investment alternatives. Since each of the four experimental groups received the identical cash flow information, only one control group was required.

4. Results

Table 1 presents the total number and percentage of subjects choosing the negative affect and neutral alternatives in the experimental scenarios, as well as data from the control subjects. It was hypothesized that managers would tend to avoid decision alternatives that elicit negative emotional reactions. Results from the experimental scenarios support our hypothesis. A greater proportion of experimental subjects chose the neutral alternative compared with the control subjects. As can be seen, 73.9 percent of the control subjects chose the alternative B. However, when a negative affect was associated with this alternative and subjects made individual decision, only 47.8 percent of the experimental subjects chose this alternative, while 52.2 percent chose the neutral alternative. These results provide support for our hypothesis 1, and suggest that negative emotional reactions can significantly impact experienced managers' individual decision behavior. When a



negative affect was associated with this alternative and subjects made team decision, 76.2 percent of the experimental subjects chose this alternative, while 23.8 percent chose the neutral alternative. These results provide support for our hypothesis 2, and suggest that negative emotional reactions can not impact experienced managers' team decision behavior.

5. Conclusion

We propose that affective reactions can have an impact on managers' capital-budgeting decisions. Specifically, our experimental results show that managers tended to reject decision alternatives that elicited negative emotional responses when they made individual decision. These findings indicate that managers consider both financial information and affective reactions when evaluating the utility of a decision alternative. Our experimental results also show that the influence of affect on team decision making is smaller than on individual decision making. The results of this study indicate that a consideration of the interplay between affect and cognition in judgement and choice is necessary to more fully understand accounting decision making.

Table 1	Total number :	and percentage	of subjects selecting	g each investment alternative
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Experimental scena	arios	Neutral alternative(A)	Negative affect alternative(B)	χ^{2}	P-value
Control group	number	6	17	5.26	0.02**
Control group	%	26.1%	73.9%		
Individual decision making	number	12	11	0.04	0.84
marviata decisión maxing	%	52.2%	47.8%		
Toom desigion making	number	5	16	5 76	0.04**
ream decision making	%	23.8%	76.2%	5.70	

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