

### Can PROMOD prevent the escalation of commitment?: the effect of a group facilitation technique on an investment decision

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# Hamburger Forschungsberichte zur Sozialpsychologie HAFOS

Erich H. Witte & Frauke R. Feldhusen

## Can PROMOD Prevent the Escalation of Commitment? The Effect of a Group Facilitation Technique on an Investment Decision.



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# Can PROMOD Prevent the Escalation of Commitment?

## The Effect of a Group Facilitation Technique on an Investment Decision

Erich H. Witte & Frauke R. Feldhusen

### Abstract

In the present study, the escalation of commitment was examined, i.e. the tendency to invest too much in projects, when to decide at a second time about a further investment in the same project. Many such investment decisions are actually made in groups. Thus, the group processes can be responsible for the escalation of commitment, because social influences often are more relevant for group decisions than informational aspects, which impedes rational decision making. A method to improve group decisions and performance is the group facilitation technique PROMOD. The experimental results support the presumption that PROMOD can also prevent the escalation of commitment by eliminating social influences within the group.

**Keywords:** group processes, group performance, escalation of commitment, entrapment, group facilitation technique

**AUTHOR'S NOTE:** We would like to thank Dr. Ulrike Becker-Beck for providing the scenario.

## Can PROMOD Prevent the Escalation of Commitment?

### The Effect of a Group Facilitation Technique on an Investment Decision

Politicians adhere to decisions without examining the effects after execution. Banks assign credit although they never receive the money again. Executive committees invest too much money in projects which are beyond remedy. These are only a few examples of how commitment can escalate. People begin something and for different reasons they find it hard to withdraw from it even if greater losses are at risk. Instead, they continue instead of backing out before it is too late. Why do people throw good money after bad money (Garland, 1990)?

In today's society, groups opposed to single individuals are increasingly responsible for making important decisions. Both politics and the economy rely on groups to make improved and more effective decisions. One common assumption is that groups decide on a rational basis. This, however, is a delusion. Groups seem to have a stronger tendency to show escalating behaviour (Seibert & Goltz, 2001), although the escalation of commitment has rarely been investigated in groups.

The objective of the following experiment is to point out one possibility of preventing the escalation of commitment in groups. The group facilitation technique PROMOD should be capable of impairing factors which strengthen the escalation of commitment, thus resulting in the avoidance of wrong decisions as well as the minimization of potential losses (Witte, 2007 Witte & Sack, 1999).

## Theoretical Implementations

### *Theoretical background on escalation of commitment*

Wolff (2005) documented a definition escalating behaviour, which characterises escalation situations by five criteria. In this definition, investments encompass resources such as money, time or feelings. The first necessity for an escalation situation is a sequence of investments. Within a single decision with no further consequences, there is no possibility to escalate commitment, therefore implicating that people can only show escalating behaviour in situations where a possibility to withdraw is given. Additionally, all investments transacted must be lost at the time of withdrawal. A further criterion states that negative feedback related to the project's success must follow at least once. If there was no referral to project failure beforehand, it is impossible to argue somebody is investing too much. Finally, the actual chance of attaining the goal must be unclear. That means every decision in an escalation situation is made with uncertainty.

Escalating behaviour is defined as follows: A decision maker invests too much (money, time or effort) in an escalation situation. As a research objective, it is now necessary to define *how* much is investing *too* much. In order to attain a rational, correct decision for an uncertain situation, a bench mark is required.

Many authors are involved in researching the occurrence of escalation of commitment. Staw (1976) first examined the phenomenon using the role-play case A&S (Adam & Smith company), in which test persons received information about the economic development of the company. Even though the feedback gets worse, many people miss the right point to withdraw. Field studies, on the other hand,

document the losses resulting from escalating behavior. Drummond (1994a) examined the hiring of an incompetent manager. The company employed him despite the fact that he was obviously not qualified. Colleagues hoped in vain that he would grow into the job with time. Outstanding observers demanded his discharge; however he first quit the job when he was blamed for unproven sexual annoyance. On another note, Ross and Staw (1986) described how the \$78 million EXPO 86 project, the world exposition of 1986 in Vancouver, became a \$311 million nightmare.

Similar fields of research deal with entrapment and sunk cost (Staw, 1997). If a project is nearly finished and much has already been invested, the decision makers tend to complete it even if negative feedback has received. Staw and Hoang (1995) provided a further example. In the NBA (National Basketball Association), coaches sent players they invested the most in more frequently on the field. The less expensive players sat more often on the bench. According to the performance and achievements observed during the games, the coaches should have decided differently.

Research on entrapment (Brockner & Rubin, 1985) is particularly concerned with the process of getting involved in a project. Test persons must solve a riddle and require an encyclopaedia to do so, which others pretended to use. The longer the test persons waited with answering, the less money they were able to win. They even waited so long that all profits were lost. An everyday example is waiting for an elevator, although the distance could have already been covered by foot.

There are many theories about why people show escalation behaviour. Wilson and Zang (1997) stated 17 different explanations for the escalation of commitment.

An integrated theory has not been developed so far. Staw (1997) summarized the factors affecting the escalation of commitment in a classification scheme and developed a temporal and aggregated model. Yet the model still requires further examination.

Explanations for the escalation of commitment can be found in our socialisation. Decision makers want to avoid appearing wasteful and they do not want to lose the investments already made. Arkes and Ayton (1999) found out that adults generalize the decision rule “do not waste” over all decisions. On the contrary, children do not generalize. Instead, they are able to base their decision more strongly on future benefits than on preceding investments. In addition to this decision rule, a socially controversial conviction is that people should bring things they started to an end. A common parental advice for children is to empty their plate. On another note, people who quit a project do not gain positive reinforcement. The tenor is rather that the particular person did not invest enough time or effort. Finishing tasks started is desired in our culture.

A main explanation of the escalation of commitment is found in the self-justification hypothesis (Brockner, 1992). People continue an action they have begun, because quitting would mean having made a mistake. They reduce cognitive dissonance by continuing the action so that past investments are not seen as being made in vain. By further pursuing the project, investments appear legitimate to oneself as well as to others. This effect is particularly strong if the acting person is responsible for a negative consequence.

The prospect theory (Kahnemann & Tversky, 1986) provides another explanation. In escalation situations, prior investments did not result in the benefits expected, i.e.



some negative feedback occurred. People must then to decide between a sure loss and the chance to compensate the losses. As losses have already been incurred, further losses seem less threatening. Additionally, people perceive a concrete loss as more exciting than a probable one in the future. Withdrawing from a project corresponds to an actual loss. The theory would predict to continue the project, because the chance to regain concrete losses is given (Whyte, 1993).

### *Factors affecting the escalation of behaviour*

Researchers determined a multitude of factors which either intensify the escalation of commitment or cause de-escalation. Soman (2001) found that people are more willing to invest time than money into a project. Therefore, decision makers impair projects by investing more time than the needed money. Research investigations reveal that individuals who made the original decision show stronger escalating behaviour (Staw, 1976), thus indicating a stronger sense of responsibility causes higher investments (Becker Beck & Wend, 2004). Garland (1990) showed that the closer a project is to completion the more difficult it is for people to quit it. High involvement, also without responsibility for the decision, is a further factor causing the escalation of commitment (Brockner, Houser, Birnbaum, Lloyd, Deitcher, Nathanson & Rubin, 1986). Consequentially, we can assume that those who highly identify themselves with the organisation invest more (Becker-Beck & Wend, 2004). Moon (2001b) found the escalating effect of achievement striving. Members of decision-making bodies are especially characterised by a form of motivation called "need for achievement".

Researchers also discovered a set of de-escalating factors. The most important one is the setting of limits (Boulding, Morgan & Staelin, 1997). In order to enable

rational decisions, criteria quantifying success are necessary. Only experts should make important decisions, for they usually do not exhibit escalating behaviour due to their scope of responsibility because of the salience of decision criteria (Moser, Hahn & Galais, 2000). However, especially in political and executive committees, it can not be ensured that members are experts for all decisions at issue.

Special aspects are worth mentioning for groups. Groups are actually more vulnerable to escalating commitment than single decision makers (Whyte, 1993). Yet Kameda and Sugimori (1993) came to contradictory results. They led the higher escalation of commitment found in individuals to the diffusion of responsibility in a group situation. Their hypothesis states that the single individual is more responsible for the decision made and tends to irrational behaviour. We assume an opposing effect. Another factor leading to additional escalation is the fact that other group members orient themselves on the behaviour of the other subjects in the group. The problem arises if the other group members show escalating behaviour (Brockner & Rubin, 1985). The question behind this different prediction is whether the influence of the individual responsibility is higher than the conformity effect.

Simonson and Staw (1992) compared different de-escalation strategies in their studies. Most effective were minimum goal setting, decision evaluation on the basis of process instead of results and reducing fear of a negative outcome. This was examined, however, in individuals. Different influences must be considered for groups. One supportive group decision-making technique is the devil's advocacy method. However, it did not provide the desired reduction of the escalation of commitment (Becker Beck & Wend, 2004). We are therefore in search of a method which can prevent the escalation of commitment in groups.

### *Special problems in group decision making*

In order to facilitate group decisions to be made on today's complex issues, decisions need to be achieved in a faster and improved manner, i.e. reaching broader agreement in less time. Ideally, other group members should compensate errors made by individuals. Yet in practice, groups can rarely fulfil this expectation. Coordination losses arise if group members organize their communication and distribute tasks. Another problem stems from the fact that the group carries out no preparatory coordination work, for example when selecting a solution strategy, but instead immediately starts with the result search (Hackmann & Morris, 1975). Effects regarding motivation losses such as social loafing (Latané, Williams & Harkins, 1979) additionally reduce group performance. Within the group interaction context, individual performance does not reach its maximum potential. In addition, groupthink effects (Janis, 1972) also limit performance. Group members tend to adapt their opinions uncritically to the majority.

Decisions made by the group do not primarily depend on the arguments members exchanged. Normative influences are at least equally important. Tindale, Smith, Thomas, Filkins and Sheffey (1996) explicated that juries decide even tasks without apparent correct solution towards fractions of the members in the group. Socio-emotional norm orientations socially shared representations often play a more important part than the exchange of arguments (Witte, 1996, 2007; Engelhardt & Witte, 1998). Stasser and Vaughan (1996) describe that speakers with a high status are perceived as experts and thus their opinions affect a decision independently of their arguments. According to the extended group situation theory (EGST; Witte, 1996), informational influences are maximal only if no social values are represented

by the discussed material and two opposing groups with median commitment to a constituency are debating. These requirements are rarely given in practice. Especially in executive boards, a discussion between two different parties is unusual. A further condition for good decision-making is that group members must be able to reach a good solution individually with high likelihood. Otherwise, the probability for a good solution in the group is smaller than for a single person (Kerr, 1996). Nevertheless, it is wise to leave important decisions to groups. Most often one person alone does not dispose of all relevant information necessary for a particular decision. Above all, teamwork is essential in international projects. In politics, we rely on more than one person to make decisions for an entire country etc.

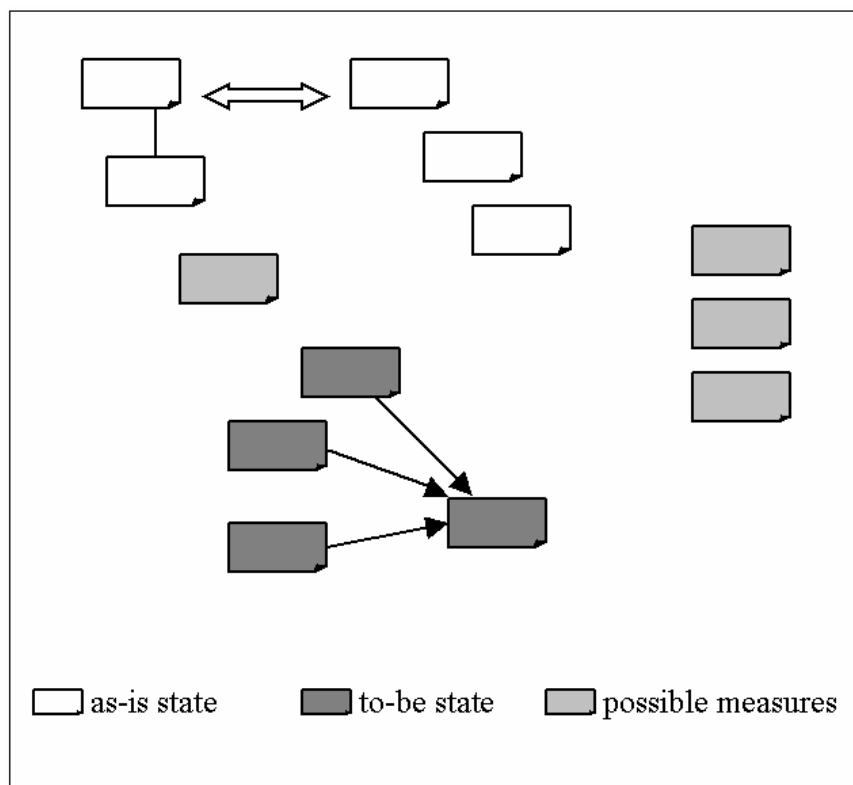
A method to improve group performance should contain the following aspects. The group interaction should be limited to a minimum in order to reduce normative influences and attach importance to informational aspects (Witte, 2007). The higher the quality of individual input and the more independently group members work in the beginning, the better group performance will be (Sorkin, Hays and West, 2001). By proceeding in this manner, group members should develop a common understanding of the problem by taking the various individual perspectives into consideration (Reimer, 2001).

### *PROMOD*

The group facilitation technique PROMOD (procedural moderation) establishes these conditions. The method was developed at the University of Hamburg (Witte, 2007; Witte & Sack, 1999).

The particular feature of this method is that group members do not interact directly with each other, but rather indirectly through a facilitator. In the first phase, a dialogue between a group member and the facilitator takes place, thus increasing individual motivation. During this initial stage, the facilitator encourages individuals to collect all factors potentially influencing the problem (as-is analysis). In the second phase, the person notes the desired (sub-) objectives on cards (to-be analysis). All cards are structured in form and content. Relations may be illustrated with arrows. In a third phase, the individual group member develops measures to achieve the desired objectives and writes these on cards as well. The person judges the suggested measures according to risks and chances and makes a provisional decision. The facilitator then examines this structure entirely and looking for missing aspects and checking comprehensibility. The following illustration relates a possible structure.

Figure 1: Illustration of a PROMOD chart (BMP)



During the entire procedure, the facilitator supports the person by asking purposeful questions and help to differentiate the structure. This procedure conduces to deepen the individual view of a problem and to improve the quality of the individual decision. Besides that, the group members make their first decisions independently.

The following consensus phase is concerned with the exchange of different structures created by individual group members. Each member receives the anonymous structures of every other group member. Again in individual work, the group member goes through these structures alone with the facilitator. It is possible to ask questions regarding comprehension. Then, group members have the chance to amend their own structure by incorporating specific aspects yet unconsidered or

unknown, or they may even develop new solutions. In further steps, individual group members may comment other structures and receive the annotations made by others regarding their own structure. The objectives of this step are to enable individual understanding of different perspectives and to exchange information. Thus, they compile a corporate solution by agreement or by vote if there is no consensus.

Normative influences play only a small part in this procedure. The group members can concentrate on argumentation, meaning there is no pressure to conform. There is also no need to coordinate, since the facilitator relieves group members of this task. Motivation losses are not expected, because working with the facilitator alone leaves no chance to withdraw from responsibility. By dissolving the group's dynamics, it is possible that normative influences are reduced to a minimum.

Different studies confirm the influence PROMOD has on improving group performance. Witte and Lechner (2003) showed that groups supported by PROMOD obtain better achievements than control groups when solving the Desert Survival problem. They more frequently selected the correct solution, namely to remain at the location of the plane crash, and ranked the given objects in more rational orders. In the SIMAD study (Witte & Sack, 1999), a committee has to prevent the propagation of AIDS in a city using adequate measures. PROMOD groups achieved significantly better achievements in this highly complex problem and developed more measures to solve the problem than the control group did.

The method appears particularly promising regarding the escalation of commitment, since it contains many de-escalating factors. Clear objectives are specified during facilitation to make to success measurable. Besides that, the

method allows a process-orientated justification of the decision made, since the decision-making process is recorded. The amount of investments should remain at a minor level without reducing desired factors such as the sense of responsibility and the identification with the organisation. Moser et al. (2000) examined the influence of being an expert on escalation of commitment. Experts in the loan industry learned a decision rule which allows them to charge off the money already invested. They were able to reduce the danger of commitment escalation. However, they executed this rule only in areas of their expertise. They can decide on the basis of defined structures which makes more rational actions possible in many decision situations.

## Experiment

### *Method*

A total of 218 students enrolled in various subjects participated in this study from June - December 2005. They received credits as an incentive. The average age is 25.4 years, 70 % of the participants are female and 30 % male.

The experimental design includes three different kinds of groups – a group to determine a baseline decision, a control group with free discussion, and a PROMOD-group. The dependent variable is the amount invested in a development project in Hamburg, i.e. how much money people invest in the project's second phase. In addition, 6 experts evaluate the success of the project in the future and give their written advice.. Further variables were the sense of responsibility ("I feel responsible for the decision"), the identification with the organisation ("I identify myself with the EuroInvest AG.") and the city of Hamburg ("I identify myself with the city of Hamburg"). The scenario (Becker- Beck & Wend, 2004) modified for Hamburg depicts an investment company (EuroInvest AG) which has already invested 200



million Euro into a building project in the city (see appendix A). Some problems arise until it is time to make a decision. In the relevant decision phase, participants can invest between 0 and 1 billion Euros. Six experts are available as decision support, whereas three offer positive and three negative feedback comments.

The instruction for the baseline, providing the “correct” solution for the scenario without emotional impact, began with a short definition of escalation of commitment before of the decision. Becker, Beck and Wend (2004) found that information about the possible irrationalities causes de-escalation. Additionally, the test persons receive instructions to give a recommendation on a rational ground without personal responsibility for the first decision. That implies that both the sense of responsibility as well as the identification with the company or the city remain low, therefore facilitating a rational decision. The six different experts are to be ranked according to their plausibility. Investigating the baseline is important, since objectively calculating the correct solution is difficult in the given scenario. The success of the assigned interventions can be measured with baseline data.

Test persons in the PROMOD-facilitated experimental group as well as in the free-discussion control group are to imagine they are the executive committee of the EuroInvest AG investment company. According to the story, they have already made the initial decision to start the project unanimously.

Control group variables were measured three times. Before the group discussion started, test persons note their individual decision. Afterwards, they discussed their ideas in groups of three, made a joint decision and documented the corporate result. Following they note the individual decision again, in order to measure the social impact of the group on the individual decision.

For the experimental groups facilitated by PROMOD we reduced the full cycle of this group technique to main influence processes to save resources. We acquired nine individual decision structures and possible comments first from nine persons who went through the first dialog phase of PROMOD to generate these structures. In the experiment, the facilitator guides only one real test person through the entire facilitation process. The individual amount of investment is selected beforehand. In the first dialogue phase, the test persons compile an individual decision structure. In the following consensus phase, the test person randomly receives two other decision structures created by others labelled as second and third group members. Participants are then to include the information offered by the two other structures in their decision. Additionally, they can comment the other structures and receive comments on their own structure made by the fictitious group members. For the exact operational sequence during facilitation see Appendix B. After facilitation, subjects answer all questions once again.

For both the group discussion and the PROMOD facilitation a time limit of 90 minutes was given.

### *Results*

As expected, the amount of investment made at the beginning is significantly connected with the level of the sense of responsibility ( $r = .446$ ) and the identification with EuroInvest AG ( $r = .318$ ). (All significant results reported have a level of significance of 0.01.) People with a high sense of responsibility and high identification with the company show the largest investment (570 million Euro,  $s = 225$  million Euro,  $N = 94$ ) as also revealed in the Frankfurt scenario (Becker-Beck & Wend, 2004). The test persons in the baseline ( $N = 124$ ) feel significantly less

responsible ( $t = 9,051$ ,  $df = 1$ ) and identify less with the organization ( $t = 9,940$ ,  $df = 1$ ) than the two other groups, thus group manipulation has succeeded as desired. The people in the baseline invested significantly less than the two other groups in the beginning of the experiment. ( $t = 5.628$ ,  $df = 1$ ). This value also corresponds to the results in the Frankfurt study. The average of the nine predetermined PROMOD structures is 369 million Euro ( $s = 204$  m Euro). This value does not differ significantly ( $t = 1.279$ ,  $df = 1$ ) from the value in the experimental group at the beginning. The experimental groups invested 458 million Euro ( $s = 315$  m Euro). The nine previously chosen structures simulate other the decision of the experimental subjects quite well. (see Table 1). Other measured variables such as sex, age or major do not affect the investment amount in this study.

Table 1

*Means and standard deviations for the investment amounts in EUR (million)*

	Mean	s	N
PROMOD before group intervention	458	315	25
PROMOD after group intervention	311	213	25
Baseline	314	218	124
Control before group intervention	442	196	69
Control after group intervention	553	175	69

Table 2

*Means and standard deviations for corporate identification ("I identify with the EuroInvest AG.") and sense of responsibility ("I feel responsible for the decision.")*

	Identification		Responsibility		N
	Mean	s	Mean	s	
Baseline	2,51	1,358	2,78	1,596	124
PROMOD before intervention	4,92	0,862	4,96	1,098	25
Control before intervention	4,10	1,363	4,41	1,332	69
PROMOD after intervention	5,20	0,707	5,28	0,843	25
Control after intervention	4,59	1,080	4,84	1,080	69

*Values from 1 = "do not agree at all" to 6 = "totally agree"*

Group facilitation with PROMOD should fulfil three tasks. Firstly, people are expected to show less escalation of commitment. Secondly, the amount of investment should decrease not randomly, but rather to a rational level. Thirdly, emotional factors should not play an important role for making a decision.

In the PROMOD group, the amount of investment decreases to about EUR 147 million on average. The facilitation can prevent the escalation of commitment and supports a rational decision. Before group intervention, participants invested almost the same in the open discussion and during the facilitation's consensus phase. As

predicted, the Repeated Measures ANOVA shows that after the group intervention, the amounts of investments differ significantly. In contrast to PROMOD, the escalation of commitment rises during the open discussion.

Table 3

*ANOVA Results (2 x 2 factor design with repeated measures)*

*Deviation for amount of investment*

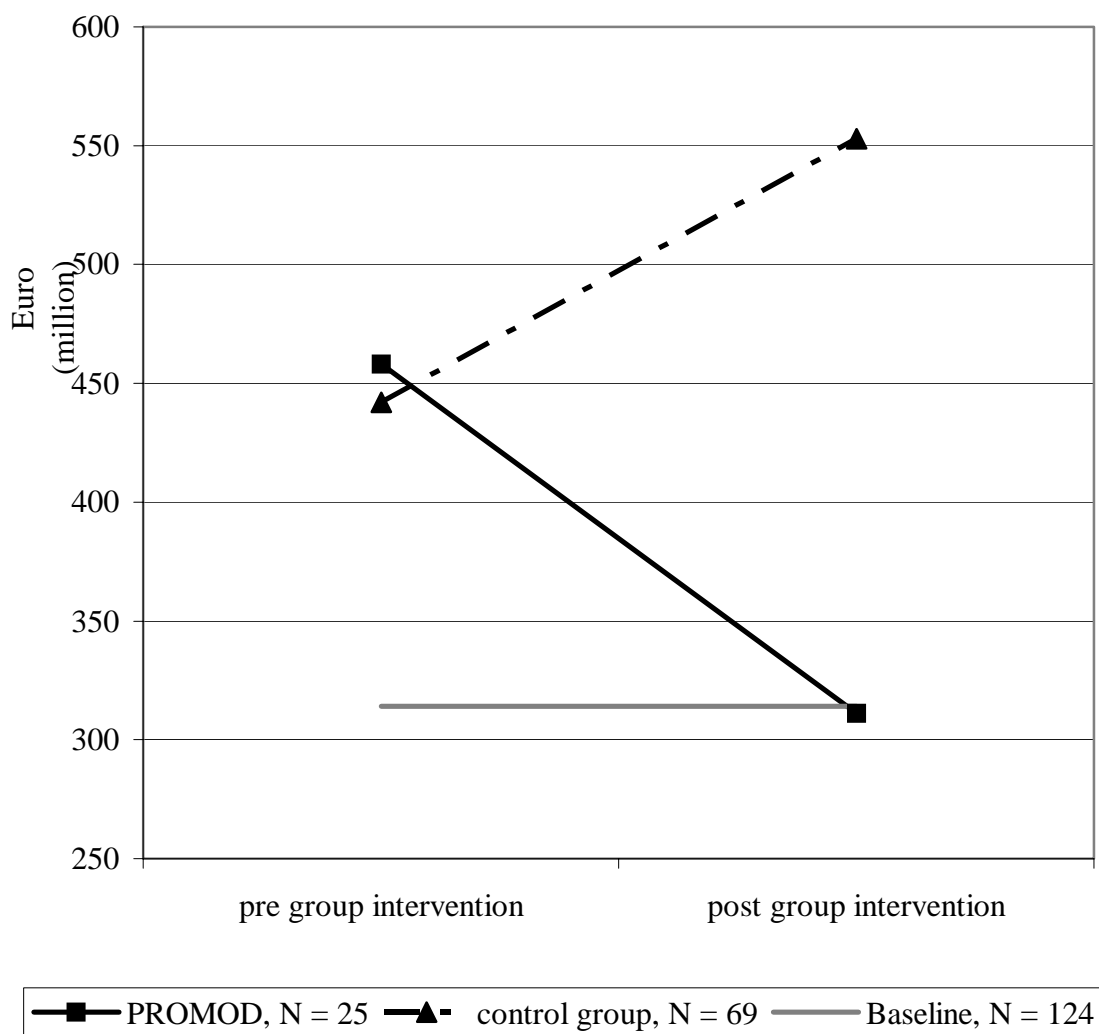
	F	df	Eta <sup>2</sup>
Amount of investment before / after	0,564	1	0,006
Control group / PROMOD	6,826	1	0,069
Before / after x control / PROMOD	31,136	1	0,253

N = 94, level of significance = 0,01

Schulz-Hardt and Frey (1998) pointed out that researchers have frequently investigated the escalation of commitment, but have paid too little attention to examining the contrary effects. Do people withdraw from projects too early? In order to prove that PROMOD does not have such an effect we raised the baseline. The amount of investment evoked in this manner delivers the objective correct decision for this scenario. The PROMOD groups should not invest significantly less than the baseline does. Otherwise this would imply that facilitation leads decision makers to render too careful judgements. As expected, the invested amount of EUR 311 million in the PROMOD group does not differ significantly ( $t = 0.57$ ,  $df = 1$ ) from the

investments made by baseline participants (EUR 314 million). This is strong evidence that PROMOD leads to a more rational decision. In contrast, the people in the control group significantly invest EUR 553 million, more than the baseline ( $t = -8.327, df = 1$ ).

Figure 2: Means for investments made by baseline, control and PROMOD groups before and after facilitation or discussion.



Before the interventions, the amount of investment and emotional factors such as identification and sense of responsibility are correlated as mentioned above. There are no significant correlations between these variables after facilitation. As expected,

the amount of investment in the PROMOD group does not depend on these emotional factors. People are able to solve the problem more rationally, although both test persons' identification with the organization and their sense of responsibility tend to increase during facilitation. Thus we cannot attribute the effect of preventing escalating behavior to a lack of identification or missing sense of responsibility, but rather to the reduction of socio-emotional impacts by PROMOD facilitation.

In the control group, the sense of responsibility and identification also tend to rise during the open discussion. Contrary to the hypothesis stated by Kameda and Sugimori (1993), no responsibility diffusion emerges in the group situation. However, the emotional factors such as identification or responsibility do not correlate with the amount of investment as well after group discussion. Other shared representations seem to be more important for the escalation of commitment.

The PROMOD group and the control group had to rate the experts' advice regarding their influence on making an investment decision. Three experts (No. 1, 2 and 6) include positive and the other three (No. 3, 4 and 5) negative feedback comments. Calculating an influence score for each written advice the PROMOD groups should rate the negative expertises more important and the positive less important than the control groups after the intervention. We can indeed verify this assumption with the current data. Yet the positive experts are most influential for the investment decision, although participants in the baseline group judge the negative experts as more plausible.

Table 4

*Means for advice influence ratings (z-values) before and after facilitation or discussion*

Group	Before Intervention		After Intervention	
	PROMOD	Control	PROMOD	Control
Positive Feedback	2,74	2,32	1,97	3,30
Negative Feedback	-3,00	-1,78	-2,11	-3,44

### Discussion

The results gathered in this study confirm our hypotheses. Highly identifying with the organization and a high sense of responsibility for the decision represent factors which intensify the escalation of commitment. However, it is not reasonable for an organization to reduce these factors as intervention because of other side effects: Highly identifying with the organization has many advantages. It increases, for example, work motivation and work satisfaction. People with high identification also mentioned less physical stress (Van Dick & Wagner, 2002). These two factors should be maintained in group conditions at work, although they lead to a stronger escalation of commitment if not facilitated.

Natural groups interacting in open discussions remain behind their potential, because social influences are more important than informational ones (Kerr &



Tindale, 2004). A possible explanation is the communication of primary, shared information (Tindale et al., 1996). That is, people exchange arguments which lead to further investments. As the evaluation of these arguments increases, information contra investments are rarely mentioned and become therefore less important. The group members mutually confirm their point of views, thus escalating their investment behaviour. Additionally, the group members follow no special structure during the discussion. This enforces the more frequent exchange of information which promotes further investment. They judge this information to be more important after the discussion and the group invests even more than initially planned. This affects the evaluation of the experts' advice, too. In the control group, the experts with negative feedback tend to become less important for decision-making. Participants focus on positive aspects and therefore analyze information less critically. In contrast, PROMOD is qualified to prevent the escalation of commitment as confirmed by the results of this study. During facilitation, participants specify concrete objectives and incorporate all available information. They can justify their decision on the basis of the developed structure. . In addition, the other group members exert no conformity pressure on the individual during the first phase. Participants who make decisions with the aid of PROMOD do not only invest less than the control group, but also reside on an investment level similar to the baseline's amount. With PROMOD, people are able to make a more rational decision, just as if they were not involved in the problem.. Implementing this facilitation does not simply decrease the amount of investment to a level as little as possible; it instead reduces the sum to a rational baseline. The identification with the organization as well as the responsibility for investments are not diminished, yet people are enabled to make decisions independent of these emotional factors, although the individual decision at

the beginning shares all the social representations and irrationalities which could be eliminated by a facilitated group process. This is the general hope why to decide on such highly important investments in groups. However, this is almost never found in naturally interacting groups without the help of a facilitating technique.

### Future research

In this experiment, PROMOD is only partially simulated. Participants completely undergo the first phase of individual decision finding. However, nine pre-determined structures replace the two further randomly chosen group members in the second phase. In addition, the agreement phase is limited to one step, whereas originally the exchange of structures can require more steps. In future experiments, both the complete facilitation with three real test persons and the usage of this method in practice need to be examined. In this manner, intervention effectiveness can be validated.

One problem in investigating the escalation of commitment is to decide what amount of investment corresponds to a rational decision, i.e. to what point do people show “reasonable” or legitimate commitment to a project? To the other extreme, people can withdraw from a project too early and therewith not show any affiliation with it. This aspect has rarely been investigated so far. What causes more damage? Investing too much or withdrawing from a project too early, although it could have proved successful with more commitment?

## Conclusion

When should an organization apply PROMOD? Can we optimize each decision with facilitation? In escalation situations, it is relatively simple to use this form of group assistance. First, decision makers are to set clear objectives directly at the beginning of a project, in order to make success measurable. At every other step in the process a facilitator can use PROMOD to support important further investment decisions. Mostly, the question is if and how much should be invested after, for example, a budget has been exceeded. Thereafter, one possible alternative is to withdraw from the project. In practice, there are enough decision making phases which correspond to steps PROMOD facilitates.

Yet is it necessary to use PROMOD? Group performance usually remains below expectations (Kerr & Tindale, 2004). There is so much unused potential in the groups. One can imagine how much money, time or effort one can save if the emergent attributes of groups are actually used within decisions and projects.

Why do people not use such techniques as PROMOD more commonly? Perhaps they feel no or less pressure to change: The common perception of group members and single persons is that groups perform better work than individuals (Plous & Wesleyan, 1995). Bad group decisions become apparent too late, i.e. after the project actually fails. It is essential to train people's perception of group efficiency, because that bestows them with the knowledge crucial to evaluating group performance more realistically. With such awareness, team members can apply measures to improve their performance.

As the future puts higher demands on decision making processes, facilitation techniques not only represent a possible, but especially a necessary intervention in group interaction. In this experiment, we find clues indicating that PROMOD is an intervention to prevent the escalation of commitment. The results demonstrate how the facilitation method assists in not investing too much in escalation situations, while on the other hand investing just enough to finalize a project and to make profits out of it. The technique is supposed to compensate factors leading to irrational behaviour.

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## Appendix A

### Scenario

The real estate company EuroInvest AG develops and cares for projects in first-class buildings in cities. A three-man executive committee is the highest decision-making body at EuroInvest. This group must make all decisions concerning large investments unanimously. Wrong decisions entailing extensive financial losses usually lead to deposition from its executive status. The committee defines itself as follows:

"We select our cooperation partners carefully and maintain trustworthy contact to our economic as well as local persons of charge. That bestowed us with a reputation of renowned **seriousness**. We work on acceptable concepts which put people's needs first, local authorities and trading-operators. Our goal is the advancement and extension of urban centers. Our vision is "**the future is our city's center**"!

In November 2001, **your group, EuroInvest executive committee**, made the path-breaking decision: In Hamburg a new town district will be developed. The European Quarter will contain a 90 m office high-rise, the "Euro Tower", a gigantic "Urban Entertainment Center" for leisurely activities, two further skyscraper hotels as well as a 2 km „European Avenue" with apartments and shops.

The European Quarter is planned in three levels of development and should be accomplished by the year 2013. Altogether the costs of the project amount to approximately EUR 1.5 billion.

As consequence of the decision in 2001, for which **your group as an executive committee of EuroInvest is responsible**, EuroInvest has already invested 200



million Euro in the "European Quarter" project from 2001 to 2005 in the context of development period I. Half of these costs were financed by credits for which interest must be paid.

The majority of these investments (EUR 150 million) flowed into the acquisition of fallow land. The remaining EUR 50 million were used in order to pay the architectural competition (the architect's office C.W. was assigned with the large-scale project) as well as incidental advertising and administrative costs.

### **Project History of Development Period I (2001 – 2005)**

#### **2001/2002:**

- Architectural competition takes place.
- Technical and economic planning of the "European Quarter" starts.
- EuroInvest starts with costly publicity for the project.

#### **2003:**

- The first building applications are handed in to the urban building authority.
- First success-promising negotiations with potential investment partners and tenants are passed.
- The city of Hamburg promises financial support to EuroInvest for the realization of the "European Quarter". In addition, the "European Quarter" should be connected to the public transportation network by a city-financed underground line.

## **2004:**

- The permit of the building application for the "Euro Tower" through the city Hamburg retards. There is disagreement in the urban committees on whether a 90 m high office tower can be integrated into the existing high-rise skeleton plan.
- Thereby the project schedule is delayed. The original start of construction for the "Euro Tower" was intended for mid 2004.
- Despite success-promising negotiations no main tenants for the "Euro Tower" are found until now.

## **2005:**

- An agreement is reached by the urban committees: The "Euro Tower" may have a height of 75 m. Thus, the "Euro Tower" must partially be re-planned. This entails further delays in development. All further building applications are approved without restrictions.
- Due to negotiation difficulties with important investment partners, the realization of the "Urban Entertainment Center" as well as the other objects advances only hesitantly. In May, a large American real estate bank, the main investment partner, withdraws unexpectedly from the project.
- Today in the year 2005, different experts concerning the "European Quarter" are available. Here are the summaries of the individual expertises:

- Expert 1:** "The European Quarter ranks among the largest and most trend-setting projects regarding urban construction in Europe."
- Expert 2:** "The development of the 'European Quarter' will strongly invigorate the weak economic situation in the Hamburg area."
- Expert 3:** "The budget stop by the city Hamburg complicates the project's financing."
- Expert 4:** "The changes in the capital market let the future of the financial prosperity Hamburg appear uncertain."
- Expert 5:** "The risk potential and the unpredictability of the project deter more investors."
- Expert 6:** "The economic and urban concept of the 'European Quarter' is coherent."

In the board meeting taking place now your group must decide as the executive committee whether and to which extent development period II of the project "European Quarter" should be induced. Development period II (2006-2009) mainly contains the costs for work contracts and construction for the following objects (the individual objects can be arranged flexibly concerning size, office and business areas, equipment and quality of the materials, so that development costs of the individual objects vary):

- **"Euro Tower"**: EUR 250 - 300 million
- **"Urban Entertainment Center"**: EUR 150 - 280 million
- **"European Avenue"**: EUR 100 - 300 million
- **Infrastructure and park settings**: EUR 50 - 100 million

"High-Rise II" (EUR 150 - 210 million) and "High-Rise III" (EUR 120 - 200 million) as well as still missing sections of the European Avenue should be financed and finished in the framework of development period III (2010 - 2013).

For the next four years (development period II), an investment volume of up to EUR 500 million is available for EuroInvest, further investments can be financed through credits.

Your group is now confronted with an important decision.

If **your group** continues investing in the "European Quarter", the possibility exists that a sum of EUR 200 million (development period I) plus the amount you selected for development period II will have been invested into a real estate project which has little chance for success in the opinion of some experts. On the other side, further investments could correct the initial difficulties of the project and trigger the success prognosticated by other experts.

### **Important instructions for the role-play:**

- At the time of the original decision (2001), your group was executive committee of EuroInvest and your group made the original decision (2001) unanimously. Your group is thus responsible (1) for the original decision in 2001 and (2) for the amount of investment of EUR 200 millions during development period I.
- In addition, it is very important that you identify with the EuroInvest executive committee as well as its self-understanding.

## Appendix B

### Course of PROMOD facilitation in the experiment

Facilitator	Test person
Welcome!	<p><b>You need to begin each of the following cells with a capital letter!</b></p> <p>reads scenario and fills in the first questionnaire page</p>
<p>The problem is to decide whether or how much money is to be invested in the further project.</p>	
<p>Which factors affect the present situation? Are there cause factors which affect the problem? How does the current unsatisfactory situation look like? What (or who) causes the difficulties? What is critical at the moment? What are the difficulties? Do you have information referring to the chances of success in the past process of the project? Are there also positive starting factors?</p> <p>Please write these influences on the factor cards.</p>	<p>writes factor cards</p>

<p>Please arrange the cards clearly for you.</p>	<p>arranges factor cards</p>
<p>Please number the cards to be able to refer to them better.</p>	<p>number factor cards</p>
<p>Which objectives do you pursue regarding the problem?          What are the objectives you are heading for? What do you want to achieve? Which situation will you be content with?          What do you want to reach for yourself personally as a member of the executive committee or for your company?          Where do you want to be at the end of the project? How do you recognize that everything works out? What does the desired output look like?          Please write this on the objective cards!</p>	<p>writes objective cards</p>
<p>Now you are to set your own priorities. Please state the most urgent and important objectives and at the same time number these in the order of your priorities.          Please arrange the cards clearly for you.</p>	<p>prioritizes and arranges objective cards</p>
<p>Now we regard the measures to be taken, thus the amounts of investment to achieve your objectives.          Please write some possible alternatives for measures on cards. Can you imagine some other measures? How can you proceed otherwise? It is also possible to invest more or less?          Which pros and cons do these alternatives contain? What are</p>	<p>writes measure cards, notes pros and cons and decides</p>

<p>the chances and risks? Through which measure are your objectives achieved best?</p> <p>Please make a decision.</p>	
<p>Please read your cards again aloud. It is important that the other group members can also understand them. If you were a journalist would you leave the formulations like this?</p> <p>I do not understand the formulation yet. Can you express the point again in another way?</p>	<p>reads and modifies cards</p>
<p>Regard your complete solution. Is your structure perfected, do you need anything in order to make your decision?</p>	<p>controls structure</p>
<p>If you like you can draw connecting arrows between the single cards in order to clarify the relations.</p>	<p>connects cards</p>
<p>Interruption: Facilitator fetches other structures and comments</p>	<p>files in second questionnaire page</p>
<p>Please read the structures of the other board members accurately. Please ask any questions on comprehension. Try to understand the decision of the others.</p>	<p>looks at structures</p>
<p>Compare your own structure with the others. In which points do you agree, where are the differences? Bring to mind the merits and flaws of the other structures.</p>	<p>judges structures</p>
<p>Please note comments on the other structures to return them</p>	<p>writes comment cards</p>




<p>to your colleagues. You received the following comments for your structure: Comment cards are handed out.</p>	<p>and reads comments</p>
<p>Integrate the new information into your own structure. Which aspects do you wish to transfer you to your structure?</p>	<p>corrects structure</p>
<p>Can you imagine new amounts of investment? How do you decide now? Evaluate the chances and risks again.</p> <p>Can you approach the other amount of investments in your decision?</p>	<p>modifies the amount of investment</p>
<p>Thank you!</p>	<p>fills in third questionnaire page</p>



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- HAFOS Nr. 54  
2004
- HAFOS Nr. 55  
2005
- HAFOS Nr. 56  
2005
- HAFOS Nr. 57  
2005
- HAFOS Nr. 58  
2005
- HAFOS Nr. 59  
2005
- HAFOS Nr. 60  
2005
- HAFOS Nr. 61  
2005
- HAFOS Nr. 62  
2005
- HAFOS Nr. 63  
2005
- HAFOS Nr. 64  
2005
- HAFOS Nr. 65  
2006
- HAFOS Nr. 66  
2006
- HAFOS Nr. 67  
2006
- HAFOS Nr. 68  
2006
- HAFOS Nr. 69  
2006
- HAFOS Nr. 70  
2006
- HAFOS Nr. 71  
2006
- HAFOS Nr. 72  
2006
- HAFOS Nr. 73  
2007
- HAFOS Nr. 74  
2007
- HAFOS Nr. 75  
2007
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