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Opinions are more important than Arguments: Judgmental confidence as Reason for Errors in Group Decision-Making

Chris Roetheli
University of Zurich, Switzerland

In his analysis of fiascoes Janis (1972) concluded that concurrence-seeking norms (groupthink) had developed at the expense of critical thinking. Stasser and Titus (1985) proposed in their biased information sampling model that group members tend to advocate their initial preference. In a business case simulation 21 groups solved a problem to which the correct solution could only be found when members pooled their information. It was attempted either to reduce concurrence-seeking norms or to unbias information sampling. Three different assignments were given: (1) Make as good a decision as possible (2) Find as many arguments as possible (3) Make a decision (control group). All but one group from categories 2 and 3 came to a wrong decision. Neither groupthink nor biased information sampling can be blamed for causing these failures. A more process oriented explanation is suggested: Preliminary preparation and confirmation of initial preferences increased judgmental level of confidence of group members to a level where the motivation to further scrutinizing available arguments vanished.

> The Kennedy administration's Bay of Pigs decision ranks among the worst fiascoes ever perpetrated by a responsible government. Planned by an overambitious, eager group of American intelligence officers who had little background or experience in military matters, the attempt to place a small brigade of Cuban exiles secretly on a beachhead in Cuba with the ultimate aim of overthrowing the government of Fidel Castro proved to be a "perfect failure." The group that made the basic decision to approve the invasion plan included some of the most intelligent men ever to participate in the councils of government. Yet all the major assumptions supporting the plan were so completely wrong that the venture began to founder at the outset and failed in its earliest stages.
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> (Janis, 1982, S. 14)

One important goal of discussions in decision-making groups is to pool all important information about the merits of the various alternative decisions. Groups can thus be better informed than individual decision-makers, since they provide the opportunity for a range of individual arguments to be heard. Groups are therefore potentially better decision makers than individuals (Stasser & Ttus, 1985).

Correspondence concerning this article should be addressed to Chris Roetheli at the Department of Psychology, University of Zurich, Schoenberggasse 2, 8001 Zurich, Switzerland or to roetheli @bluewin.ch

Faulty decisions do occur when members of a group have partial and biased information and the group discussion does not lead to a unbiased picture of the relative merits of the alternative decisions. According to this information sampling approach, errors in group decision-making can be defined as being decisions that do not reflect all available information.

Overriding effect of normative influence

In his analysis of political and military fiascoes Janis (1972) came to the conclusion that when group members strive for unanimity their motivation to appraise reality can be overridden. Janis (1972) refers to this behavior as groupthink. Groupthink can be linked with the work of Deutsch and Gerard (1955). They recognize that intragroup processes reflect both cognitive and social goals and distinguish between informational social influence and normative social influence. Normative influence is experienced when people's main concern is being accepted or avoiding rejection. Informational influence is encountered when people seek and rely on real evidence. Experimental studies show that groups largely concerned with the task of reaching a correct solution are more influenced by arguments. In groups more concerned with interpersonal relations, the focus is on individual members' preferences (Rugs & Kaplan, 1993).

Following this line of argument, errors in group decision-making may be attributed to the substitution of informational influence for normative influence. When group members are

largely concerned about interpersonal relations, whether motivated by desire for personal acceptance or by concern for the group's welfare, the perceived need to find an optimum solution diminishes.

Biased information sampling

Stasser and Titus (1985) describe group decisions as processes in which arguments are sampled from an available pool of items. When this pool is not fully shared among group members, each member can potentially acquire new information from the others. Groups can therefore in theory make a better decision than any one of their members alone. When information supporting a superior alternative is unshared before discussion, errors will occur, assuming that group members are more likely to discuss shared information than individually held information.

In an experiment Stasser and Titus (1985) provided group members individually with information that was weighted against the most favorable alternative. Even though groups could have produced all available arguments, most of them choose the alternative initially preferred rather than the most favorable alternative.

Stasser and Titus (1985) explained this result as follows: „The more members there are who are exposed to an item of information, the more likely it is that at least one of them will recall and mention it during discussion" (S.1477). Furthermore, initial preferences may influence the use of information in two ways: „First, members' recall may be biased because preference-consistent information is more salient than preference-inconsistent information. Second, members may tend to advocate or defend their initial preference and thus bias their contributions to discussions even if their recall is not biased" (S.1477).

What causes errors in a business case simulation?

Experimental studies support the assumption that errors in group decision-making can be caused by the overriding effect of normative influence or biased information sampling. This study was designed to examine the causes of errors in a particular decision-making situation. In a business case simulation groups were confronted with a decision-making task to which the right decision could be found only when group members discussed all available arguments carefully. The study of Stasser and Titus (1985) would predict that errors in group decision-making should be expected. Treatments were devised either to reduce normative influence or to remove information sampling bias. By assessing the effectiveness of these treatments it should be possible to draw conclusions regarding the causes of errors in group decision-making.

Reducing normative influence

In an experiment Rugs and Kaplan (1993) stressed either accuracy or cooperation as the group interactive goal. When accuracy was stressed, arguments had significantly more influence over the decision than preferences. When cooperation was stressed, preferences had significantly more influence than arguments. Stasser & Stewart (1992) have shown that discussions are more data-driven and less consensus-driven when members believe that a demonstrably correct answer exists. Such groups make better decisions than control groups. In our experiment some groups were instructed to try to reach the best possible decision. It was announced that there would be a debriefing at the end of the experiment. It was expected that this treatment would reduce normative influence. In control groups, group members were instructed simply to make a decision. Assuming that errors are caused by the overriding effect of normative influence, one would predict that groups who are influenced to believe that there is a demonstrably correct answer would rely more on persuasive arguments and would thus be less influenced by the preferences of other individual members. These groups should therefore make better decisions than the control groups.

Unbiasing information sampling

In order to isolate the tendency of group members to advocate or defend their initial preference the effect of biased and poor memory was neutralized in our experiment. Many arguments were provided, making recalling them almost impossible, and all information was available during discussion. However according to Stasser and Titus (1985) preference-consistent information should remain more salient than preference-inconsistent information and the members' tendency to make contributions that advocate or defend their initial preference should persist. Reducing this remaining effect should be possible by giving groups the task of fact-finding rather than decision-making. One category of groups were not asked to make a decision. Instead they were instructed to find as many arguments as possible and told there would be a debriefing at the end of the experiment. At the end of their task these groups were only required to give a recommendation. Assuming that biased informa-

tion sampling causes errors, one would predict that groups working on a fact-finding task would become attentive to the knowledge held by individual members. These groups should therefore make better decisions than the control groups.

Method

Business school students individually prepared a business case in which they had to evaluate three hypothetical information technology companies. Company C was the best supplier in the sense that its profile contained more positive and less negative arguments than the two other companies. Participants were given only partial information about each company. Each of the three group members knew only some of the positive arguments about Company C but all of the negative arguments. For Company B they knew all positive arguments and only some of the negative arguments. This distribution of arguments gave each group member the impression that Company B were the firm with the most positive and the least negative attributes. However, each group had all the information collectively and could potentially recreate the complete company profiles during discussion.

After the company descriptions were studied, the students indicated their preferred company on a private questionnaire. Participants then joined their groups to discuss the companies and decide which one was the best. After reaching a decision, subjects privately completed a final questionnaire. 67 students participated in 21 groups. Three types of groups were given three different assignments: (1) Make as good a decision as possible (6 groups); (2) Find as many arguments as possible (8 groups), (3) Make a decision (7 groups).

Results and Discussion

60 of 67 (90%) of all subjects indicated their preference. 97% of them showed, as expected, a preference for Company B.

Overriding effect of normative influence

Assuming that the overriding effect of normative influence causes errors, we predicted that in groups where a demonstrably correct solution was believed to exist normative influence should decrease and thus decision-making quality increase. After the group decision participants were asked in a final questionnaire if they believed that their task had a demonstrably correct solution or not. Group members who belonged to groups instructed to make as good a decision as possible had a significantly higher perception of a demonstrably correct solution than the other two groups ($p<.05$). Table 1 shows that groups instructed to make as good a decision as possible were no better decision makers than control groups.

Table 1: Decision of groups instructed to make as good a decision as possible and control groups.

	B		C		Total	
Good-decision	6	100%	0	0%	6	50%
Control	5	83%	1	17%	6	50%
Total	11	92%	1	8%	12	100%

Being instructed to make as good a decision as possible increased groups' perception that a demonstrably correct solution existed. Following Stasser & Stewart's (1992) conclusion, these groups must have been more data-driven and less consensus-driven. As the reduction of normative influence had no effect on decision quality we conclude that a high normative influences did not cause the errors in our decision-making groups. For our business case simulation groupthink cannot be blamed for causing the failure to find the best solution.

Biased information sampling

Assuming that biased information sampling causes errors, we predicted that groups instructed that they were working on a fact-finding task would become attentive to the knowledge held by individual members and should therefore make better decisions than control groups. Table 2 shows that groups instructed to find as many arguments as possible did not make better decisions than control groups.

Table 2: Decision of groups instructed to find as many arguments as possible and control groups.

	A/B		C		Total	
Arguments	5	83%	1	17%	6	50%
Control	5	83%	1	17%	6	50%
Total	10	83%	2	17%	12	100%

The groups required to find as many arguments as possible were instructed to list all arguments on a separate form. Unexpectedly none of the groups listed any arguments. Control groups showed a similar behavior. After indicating their preference, control groups were invited to give an explanation for this preference. Again, none of these groups listed any arguments. Had errors been caused by biased information sampling, it would be expected that groups who had made an incorrect decision would list arguments

in favor of the alternative initially preferred. The fact that all groups ignored listing arguments and the poor decision quality of most groups with the task of finding as many arguments as possible suggest that most of our groups did not sample information at all. Their poor performance can therefore not be blamed on biased information sampling.

An alternative explanation based on the heuristic-systematic model

Is there an alternative explanation for these errors in group decision-making? Process theories of attitude formation describe cognitive mechanisms that lead to attitude formation. Chaiken (1980) has developed a model which applies to validity seeking persuasion settings. People's primary motivating concern is attaining accurate attitudes. Her heuristic-systematic model posits two paths to persuasion: (1) systematic processing and (2) heuristic processing. Systematic processing occurs when people adopt attitudes on the basis of their understanding and evaluation of persuasive arguments. When processing heuristically, people use simple decision and cognitive heuristics to produce their judgments and decisions (Chaiken, 1980, 1987). Two older theories fit in this framework: Festinger's (1954) social comparison theory and Burnstein & Vinokur's (1977) theory of persuasive arguments. Social comparison theory is similar to heuristic processing. People validate their attitudes by comparing their opinion with those of others. The theory of persuasive arguments describes systematic processing as people using persuasive arguments to come to a decision.

The heuristic-systematic model can be applied to group decision-making. It is particularly interesting to see what impact the choice of processing path has in situations, where information supporting the superior alternative is unshared before discussion. The choice of processing path actually determines whether the group finds the optimum solution or not. If groups process systematically and scrutinize all available information, the optimum solution will be found. If groups process heuristically, opinions are compared and arguments are not carefully examined. The optimum solution will not be found.

The factors that determine whether people are processing heuristically or systematically determine the quality of group decisions. Two factors determine whether people are processing heuristically or systematically: ability and motivation (Chaiken, 1980, 1987). People who lack sufficient ability of understanding and evaluating of persuasive arguments use simple decision rules such as „expert statements can be trusted“ and „consensus implies correctness“. In this experiment 87% of all subjects individually chose the alternative which had most positive and least negative arguments. This shows that most of them had the ability of understanding the problem and scrutinizing the available data. The variable decisive in the selection of heuristic over systematic processing must be motivation.

Motivation is based on the idea that people achieve a balance between the desire to hold accurate attitudes and minimizing their processing effort. People will invest whatever amount of effort is required to attain their desired judgmental confidence. Processing effort should cease when actual confidence equals or exceeds their desired judgmental confidence (Chaiken, Liberman & Eagly, 1989). For group decision-making two different routes to the decision are possible: (1) When group members' actual level of judgmental confidence is considerably lower than their desired level of judgmental confidence they will engage in systematic processing and examine all persuasive arguments. The chance of finding a optimum solution is high. (2) When group members' actual level of judgmental confidence is close to their desired level they will engage in heuristic processing and compare their opinions. The chance of finding a optimum solution is rather low in situations, where information supporting the superior alternative is unshared before discussion. The results of our experiment indicate that most participants applied heuristic processing during group discussions. There, actual level of judgmental confidence must have been close to their desired level of judgmental confidence. Results of the first questionnaire are supporting this assumption. On a 5-point scale, where 1 means not confident at all and 5 means very confident, participants indicated after the preliminary preparation their level of judgmental confidence. The average score was 4.

Why was the difference between actual and desired level of judgmental confidence during group discussion in most cases not big enough to induce systematic processing? As 87% of all subjects came to the individually correct preference, most of them must have applied systematic processing during their preliminary preparation. At the beginning of the experiment the actual level of judgmental confidence must have been considerably lower than the desired level of judgmental confidence. Assuming that the desired level of judgmental confidence had remained stable, the actual level of judgmental confidence must have increased during this task. According to Chaiken

applied systematic processing increases the actual level of judgmental confidence. Once this level equals the desired level of judgmental confidence processing effort should cease. The model further predicts that heuristic cues should exert a considerable impact on judgment when motivation for systematic processing is low. Applying the consensus cue („the majority must be right“) in a situation where all people agree should enhance confidence.

The failure of most groups in our experiment may be explained as follows: Systematic processing during the preliminary preparation increased actual level of judgmental confidence of our subjects to a level that came close to the desired level of judgmental confidence. When they joined their groups, subjects' motivation for systematic processing was low. Applying the consensus cue group members recognized in most cases that all of them shared the same preference. This further enhanced their actual level of judgmental confidence. As a consequence they had little reason to engage in further systematic processing. Due to the fact that subjects had only partial information about each alternative, groups were doomed to failure. In our case overconfidence must be blamed for failures.

This experiment shows that neither groupthink nor biased information sampling can always be blamed for causing errors in group decision-making. A more process oriented explanation is suggested as an alternative. Applying the heuristic-systematic model of Chaiken (1980) the size of the difference between actual and desired level of judgmental confidence determines whether groups are processing heuristically or systematically:

- A large difference between actual and desired level of judgmental confidence leads to systematic processing and enhances the chance of finding an optimum solution.
- A small difference leads to heuristic processing and reduces the chance of finding an optimum solution.

This experiment shows that preliminary preparation and confirmation of preferences at the beginning of discussions may have a negative effect on decision-making quality. Both activities may increase the level of judgmental confidence to a level where the motivation of group members to scrutinize available arguments further vanishes. Overconfidence produces failure. From mistrust comes success.

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