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INDIVIDUAL VS. GROUP GRADE: AN EXERCISE IN DECISION MAKING

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ABSTRACT

This paper presents an experiential exercise designed to assess factors involved in decision making, including risk analysis, self-confidence, self-evaluation, perception, and previous experience. Individuals are given a choice as to whether to keep a grade assigned for individual work, or to try to change their grade by utilizing a group process. Risk is introduced by a lack of knowledge as to the possible identity of other group members. Discussion of the motives and thoughts involved in making this decision provide a valuable training experience.

INTRODUCTION

Purpose: To demonstrate concepts of decision making analysis, including individual versus group abilities.

Advance preparation: The participants should have a basic understanding of decision making, including the Vroom-Yetton normative model. Three cases relating to the application of the Vroom-Yetton model are preassigned, to be done individually at home and to be turned in for grading purposes. For use in this exercise, Case I, III, and IV as reprinted in Steers, Introduction to Organizational Behavior, Goodyear, 1981, pp. 473- 474, were evaluated on a 5 points-per--case basis, and returned to the participants at the beginning of the exercise.

Group size: The exercise is formulated to be done in a group of six, preferably with a group with which there has been prior experiential exercise experience.

Time required: Approximately 50 minutes.

Special materials: Vroom-Yetton decision cases previously mentioned (Appendix I), and answer sheet (Appendix II). Previous information about the Vroom- Yetton decision model, such as presented in Appendix IV, should be provided.

Related topics: Perception, self-evaluation, self- confidence, group decision making.

PROCEDURE

Step 1 -Preliminary Step

This step requires 5 to 7 minutes. Students are returned their previously submitted cases, and given several minutes to look at them. Without prior warning, the instructor then announces that the students will now use this graded material as the input for a new exercise.

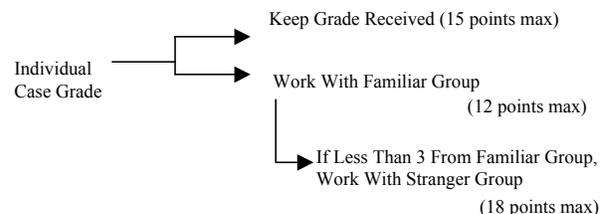
Step 2 - Individual Decision

Without consulting anyone else, students are given a choice to make. They may keep the grade which they have received on the cases just returned; or, alternatively, they may decide to give up the grade they received on an individual basis, and meet with other members of a group with which they have had a previous

set of experiential exercises. This group, called a familiar group, will be reassigned one of the three cases just returned. However, the same grade will be assigned to all members of the group, and the grade for this one case will be a maximum of 80% of the maximum grade which could have been received on an individual basis. Thus, under this option, a maximum of 12 points may be received and substituted for the original grade received on an individual basis. This option may be utilized only if three or more of the members from the familiar group choose to give up their individual grade to work with the group.

If less than three members from a familiar group choose to rework the case in the group, a stranger group, composed of members from other familiar groups in the same circumstance, is formed. This stranger group, working on a reassignment of one of the cases, will receive a common grade which may be a maximum of 120% of the maximum score originally possible. Thus, a stranger group could receive a maximum of 18 points.

In summary, the following outcomes are possible:



Step 3 -Group Decision

Dependent upon the outcomes of Step 2, familiar and/or stranger groups are formed as necessary. These groups are given 20 minutes to come up with a group decision to the reassigned case, usually Case I, and to hand their solution in on an answer sheet (Appendix II).

Those individuals who decide to stay with their original individual grade are gathered together by the instructor and taken to another room, where the solutions to the assigned cases are discussed (Appendix III).

Step 4-Discussion

Discussion of results, including factors causing an individual to keep the original grade versus choosing to go to a group, risk assessment, small group dynamics, the average grade gain or loss of those who went to a group, and the number of "correct" and "incorrect" decisions.

NOTES TO INSTRUCTORS

This exercise provides a vivid experience in the process of decision making. Individual and group factors must be weighed in deciding whether or not to stay with the original grade. Risk is introduced by a lack of knowledge as to what other group members, if any, will

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decide to work in the group, and possible problems attached to working with a group of strangers.

Results from a recent application of this exercise are attached in Appendix V, and they show an interesting pattern of results. Discussion of the motives and thoughts of the decision-makers as they made their decision is a valuable tool for analysis.

APPENDIX I

Exercise: Leadership and Participation in Decision Making

Purpose: This exercise allows you to examine in some detail how Vroom and Yetton's normative theory of leadership works. Actual practice is provided using the basic framework of the model.

Instructions: Below are three short cases in which a manager must make a decision. Based on these three cases, you should make two sets of decisions. First, on your own, read each case and state whether you would make the decision by yourself, consult with your subordinates and then make the decision, or let the group of subordinates make the decision. Remember you are the supervisor and your job is to state how you would arrive at the decision. You are not asked to actually make the decision.

Second, after reading Vroom and Yetton's normative theory of leadership, read through the cases again. This time, however, you are asked to use the decision tree framework to assist you in identifying a decision style. Following this, compare the results of your first decisions with those of your second. What do you think accounts for the difference.

Case I

You are a manufacturing manager in a large electronics plant. The company's management has recently installed new machines and put in a new simplified work system, but to the surprise of everyone, yourself included, the expected increase in productivity was not realized. In fact, production has begun to drop, quality has fallen off, and the number of employee separations has risen.

You do not believe that there is anything wrong with the machines. You have had reports from other companies that are using them and they confirm this opinion. You have also had representatives from the firm that built the machines go over them and they report that they are operating at peak efficiency.

You suspect that some parts of the new work system may be responsible for the change, but this view is not widely shared among your immediate subordinates who are four first-line supervisors, each in charge of a section, and your supply manager. The drop in production has been variously attributed to poor training of the operators, lack of an adequate system of financial incentives, and poor morale. Clearly, this is an issue about which there is considerable depth of feeling within individuals and potential disagreement among your subordinates.

This morning you received a phone call from your division manager. He has just received your production figures for the last six months and was calling to express his concern. He indicated that the problem was yours to solve in any way that you think best, but that he would like to know within a week what steps you plan to take.

You share your division manager's concern with the falling productivity and know that your workers are also concerned. The problem is to decide what steps to take to rectify the situation.

Case III

You are supervising the work of 12 engineers. Their formal training and work experience are very similar, permitting you to use them interchangeably on projects. Yesterday, your manager informed you that a request had been received from an overseas affiliate for four engineers to go abroad on extended loan for a period of six to eight months. For a number of reasons, he argued and you agreed that this request should be met from your group.

All your engineers are capable of handling this assignment and, from the standpoint of present and future projects, there is no particular reason why anyone should be retained over any other. The problem is somewhat complicated by the fact that the overseas assignment is in what is generally regarded as an undesirable location.

Case IV

You are on the division manager's staff and work on a wide variety of problems of both an administrative and technical nature. You have been given the assignment of developing a standard method to be used in each of the five plants in the division for manually reading equipment registers, recording the readings, and transmitting the scoring to a centralized information system.

Until now there has been a high error rate in the reading and/or reporting the data. Some locations have considerably higher error rates than others, and the methods used to record and transmit the data vary among plants. It is probable, therefore that part of the error variance is a function of specific local conditions rather than anything else, and this will complicate the establishment of any system common to all plants. You have the information on error rates but no information on the local practices that generate these errors or on the local conditions that necessitate the different practices.

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Everyone would benefit from an improvement in the quality of the data; it is used in a number of important decisions. Your contacts with the plants are through the quality-control supervisors who are responsible for collecting the data. They are a conscientious group committed to doing their jobs well, but are highly sensitive to interference on the part of higher management in their own operations. Any solution that does not receive the active support of the various plant supervisors is unlikely to reduce the error rate significantly.

APPENDIX II

Name: _____

Leadership and Participation in Decision Making Answer Sheet

Instructions: Please turn in your answers, based on Vroom and Yetton's theory of decision making for the three cases assigned. Use this form only. Please remember that this is an individual assignment.

Case I	Problem type _____
	Feasible set _____
	Minimum man-hours solution _____
Case III	Problem type _____
	Feasible set _____
	Minimum man-hours solution _____
Case IV	Problem type _____
	Feasible set _____
	Minimum man-hours solution _____

APPENDIX III

Vroom-Yetton Decision Cases

Case I

- A. Yes. At least four different solutions may be proposed to the problem. It does make a difference which solution is chosen, since one solution is likely to be more rational and correct than the others, and if the incorrect solution is chosen, the problem would not be solved.
- B. No. You suspect it is the new work system others think it is something else. Conflicting information is present.
- C. (Yes).
- D. No. Since you don't know what the cause of the problem is, you don't know whether to gather information on employee morale, to survey the compensation practices of competing firms in the area, to study existing training programs, etc.
- E. Yes. There is considerable depth of feeling within individuals.
- F. No. Potential for disagreement among your subordinates.
- G. Yes. Your workers are also concerned. There is no evidence that they can't be trusted.

Problem Type #12

Feasible Set G11

Minimum man-hours solution G11

Case III

- A. No. The case repeatedly points to the fact that one solution is not more rational than another. The engineers are interchangeable, equally capable, and no reason is present to select one over another. Any decision will do perfectly well, as long as the engineers go along with it.
- E. Yes. The job may not be done very well if the people who work on it do so under protest, and if everybody feels it was unfair.

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F. No. It is not certain that an autocratic decision would be accepted.

Problem Type #3
Feasible Set G11

Minimum man-hours solutions G11

Case IV

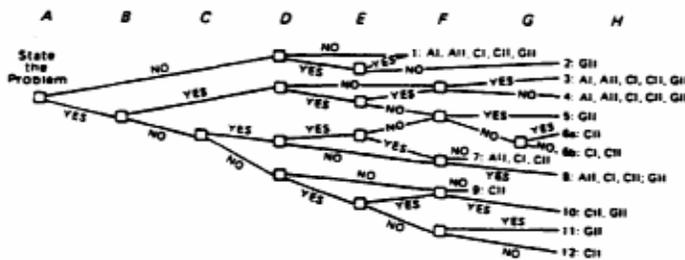
- A. Yes. One solution is likely to be more rational and correct than another.
- B. No. You don't have information on local practices.
- C. (Yes).
- D. No. You don't know what is causing the problem; quality-control supervisors are only responsible for collecting the data they may not know what is causing the problem; you don't know how to collect information for an undetermined problem.
- E. Yes. The quality-control supervisors are highly sensitive to interference on the part of the higher management.
- F. No. The solution must receive the active support of the various plant supervisors.
- G. Yes. The quality-control supervisors are a conscientious group committed to doing their jobs.

Problem Type #12
Feasible Set G11

Minimum man-hours solution G11

APPENDIX IV

Types of Management Decision Styles	
AI	You solve the problem or make the decision yourself using information available you at that time.
All	You obtain necessary information from subordinate(s) and then decode solution On the problem yourself. You may or may not tell subordinates what the problem is in getting the information from them. The role played by your subordinates in the decision is clearly one of providing the necessary information to you, rather than generating at evaluating alternative solutions.
CI	You share the problem with relevant subordinates individually, getting their ideas and suggestions without bringing them together u a group. Then you make the decision which may or may not reflect your subordinates influence.
CII	You share the problem with your subordinates as a group. collectively obtaining their ideas and suggestions Then, you make the decision which may or may not reflect your subordinates influence.
GII	You share the problem with your subordinates as a group. Together and generate evaluate alternatives and attempt to reach agreement (consensus) on a solution Your role is much like that of chairman. You do not try to influence the group to adopt your" solution and are willing to accept and implement any solution which has the support of the entire group.



Decision-Process Flow Chart for Group Problems

- A. Is there a quality requirement such that on solution is likely to be more rational than another?
- B. Do I have sufficient info to make high quality decision?
- C. Is the problem structured?
- D. Is acceptance, of decision by subordinates critical to effective implementation?
- E. If I was to make the decision by myself, is it reasonably certain that it would be accepted by my subordinated
- F. Do subordinates share the organizational goats to be attained in solving this problem?
- G. Is conflict among subordinates likely in preferred solutions? (This question is irrelevant to individual problem.)
- H. Do subordinates have sufficient info to make a high quality decision?

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APPENDIX V

Individual Vs Group Grade Exercise

<u>Last 4 Digits of SS No.</u>	<u>Individual Grade</u>	<u>Went to Group?</u>	<u>Group Grade</u>	<u>Group Grade Minus Individual Grade</u>	<u>Post Decision Analysis</u>
1021	6.5	Yes	8.4	+1.9	Correct
4253	12	No	-	-	Correct
9018	10.5	Yes	8.4	-2.1	Incorrect
6091	4	No	-	-	Incorrect
1973	10	No	-	-	Correct
8979	35	Yes	8.4	+4.9	Correct
9131	11	*	-	-	-
4599	9.5	Yes	8.4	-0.9	Incorrect
9879	7.5	Yes	8.4	+0.9	Correct
5750	12	Yes	8.4	-3.6	Incorrect
4450	6.5	*	-	-	-
5015	10.5	*	-	-	-
6163	10.5	No	-	-	Correct
3042	13	Yes	8.4	-4.6	Incorrect
0060	7.5	No	-	-	Incorrect
6846	9.5	No	-	-	Correct
7705	4.5	Yes	8.4	+3.9	Correct
2741	3	Yes	8.4	+5.4	Correct

= Missing)

- 1) Average Gain of those who went to a group was +0.65.
- 2) Of those going to a group, 5 made the “right” decision and 4 made the “wrong” decision.
- 3) Of those who did not go to a group, 4 made the “right” decision and 2 made the “wrong” decision.
- 4) The average grade received, after substituting the group grade for those who selected a group, was 8.8. The range was from 4 to 13.