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RESULTS OF USING GAMING TO TEACH ETHICS AND SOCIAL RESPONSIBILITY

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INTRODUCTION

Educating business leaders to respond to social change translates into two separate but related topics--Business Ethics and Social Responsibility. A specific class in either Business Ethics or Social Responsibility will introduce the student to the subject matter, but the student is really not involved in decision-making which carries real economic costs to the firm, nor which vividly reveals the broader implications of micro decision-making. Experience with the case method indicates the case method is not as effective as one might think. Students write what they think the instructor wants to read. The lecture method is of questionable effectiveness in developing in the student a social responsiveness, because the lecturer is attempting to express his value system to the student.

A teaching method is needed which will

1. allow the student to interact with the instructor and other students.
2. demonstrate the effect of socially responsible decisions.
3. portray the social cost of unethical decisions.
4. permit repeated opportunities to respond to business related social and ethical problems.
5. encourage shifting (and improving) one's value system as a fuller understanding of the societal implications are demonstrated.
6. add zest to the learning process so that learning becomes fun and is approached with enthusiasm.

The technique of business simulation (or gaming) is well-suited to meet the above criteria. Thus, a business game in which socially responsible and ethical decisions are required by the student seems to offer an effective method of (1) impressing on the student the macro implications of business decisions which will result in (2) a modified value system of the student.

The hypothesis of this project is that business gaming is an effective method of teaching business ethics and social responsibility as indicated by attitude changes in students participating in the game.

DESCRIPTION OF SIMULATION

A thorough search of the literature in this field has failed to reveal any attempt to simulate a game in business ethics and social responsibility. The writer's five years of classroom experience in using business games has convinced him that gaming is an effective teaching method and does motivate students to experiment, seek, search, and think. After researching the types of social and ethical problems businesses face today, the writer began to program this game.

In order to incorporate ethics and social responsibility as an integral part of the entire business decision-making process, the game simulates the operation of a medium-size firm. All major decisions in conducting such a firm's business are in the game and include:

1. Price of product
2. Marketing and advertising budget
3. Production engineering expenditure
4. Research and development planning and budgeting
5. Plant size
6. Production scheduling
7. Capital procurement through bank loans and, or common stock sales
8. Dividend policy and payment
9. Marketing research expenditure

In addition, the student is given a different situation each decision period which describes a business responsibility or ethical problem with several alternatives. The student's choice of an alternative is entered as a decision into the game with resultant consequences becoming output in the succeeding periods. Thus, the students are forced to "live with" the decisions they have made. This approach adds a new dimension to present business gaming.

A decision period in the game covers a three month period. During a normal semester, twelve decisions are made which will simulate three years of actual operations. This is of sufficient length to allow earlier decisions to "pay off" for the student. Due to the quick turn around time on the time-share computer (approximately 30-60 minutes), students can obtain the results of their decision quickly, and have ample planning and discussion time before the next decisions are due. Another advantage of fast turn around of results is that several decision periods can be made during an extended class period (of 2-3 hours) or during an all day seminar.

BUSINESS ETHICS AND SOCIAL RESPONSIBILITY SITUATIONS PRESENTED TO STUDENTS

Each decision period the students are confronted with a different ethical or social responsibility situation. A copy of each situation is distributed to the students one class prior to the date the situational decision is to be made. This allows time for each student to formulate his own solution to the problem before meeting with the team. Each team then meets during class, discusses the situation, and forms a consensus solution. (The solution is entered on the decision form and with the other functional decisions is input into the computer.) The subsequent printout for that decision period contains information which indicates the consequences of the team's solution. Two sample situations and their effect on the game follow.

SITUATION #1

The President of the firm has just discovered that in order to receive a substantial order each month, one of his salesmen is giving a fairly large kickback to the purchasing agent of Border Manufacturing. The firm's salesman has been splitting his commission with the purchasing agent of the Border company. The Sales Manager has expressed great concern over losing the Border account, if the kickback is discontinued. Although your Sales Manager does not approve of this arrangement, he does not offer an alternative to it. The Border account represents approximately 10% of your firm's business. The Sales Manager feels the probability of losing the entire Border account is about 90% if the kickback is discontinued. Which of the actions listed below should your firm take. (Justify your choice in writing and submit with the Decision Form. If your team has an alternate decision not listed, please submit it also.)

1. Discontinue the kickbacks and fire Your salesman immediately.
2. Discontinue the kickbacks and give Your salesman a warning that if anything like this happens again he will be discharged.
3. 1. or 2 above, plus notify the President of the Border Company as to the entire situation.
4. Do nothing at all about the situation.

SITUATION #1: EFFECT ON GAME

Choice 1: 907. chance that firm would lose account, resulting in 10% decrease in sales.

Printout: The Border Manufacturing Co. has cancelled all further orders.

Choice 2: 80% chance that firm would lose account, resulting in 10% decrease in sales.
Printout: Border account lost. Salesman still working on it.

Choice 3: 30% chance that firm would lose account, resulting in 10% decrease in sales.
Printout: Border account lost. Purchasing agent has been fired.

Choice 4: No effect until 9th period. At that time, the President of the Border Company discovers the arrangement and cancels all further orders from the firm.

SITUATION #2

Your firm for years has purchased plastic cases for Your product from a small plastics manufacturer. The manufacturer in fact had built a small factory adjacent to Your firm's factory, and 100% of the production from the plastics factory was for Your firm's plastic cases. Relationships with this company had been excellent, deliveries were made on time, and liberal credit terms had always been available. Both parties were extremely satisfied with the arrangement until a foreign firm approached Your firm with a bid for Your business which was 15% lower than that of Your present supplier. Although the shipping time would have been increased considerably, and Your firm would have to buy much larger lots at one time, the total savings considering these elements would still amount to $20,000 per year. The foreign firm had a large plant in Japan, did have the capacity to serve Your firm, and had very minor labor problems. It was felt the firm could deliver the goods satisfactorily. Upon presenting the supplier with the situation and the price differential, that firm's President insisted that no price concession could be made. "In fact," he stated, "we have absorbed several times, small raw-material price increases in order not to raise the price to Y0u."

He also mentioned if Your firm ceased buying from his, that he would have to close the small factory adjacent to Yours, and that at that time, he would be willing to sell it to Your firm. He felt $100,000 was a fair price for the plant and equipment. Two members of Your management team feel that Y0u should not get into the plastic molding business, as Y0u do not have the know-how. Another member feels the purchase of the plant next-door would be a wise move, and that Y0u could produce the casings for the same price the foreign firm was quoting. Another officer made a strong plea for continuing the arrangement with the firm Y0u had always done business, saying that it's definitely worth a little bit more to be assured of a high-quality product, and timely delivery of the product. Which of the following actions should Your firm take?

1. Give the casing contract to the foreign firm.
2. Continue the present arrangement with the current supplier.
3. Cancel the contract with the present supplier and pay the asking price of $100,000 for the plant.
4. Cancel the contract with the present supplier and offer to purchase his plant for $50,000.

Justify Your choice in writing and submit with the Decision Form. If Your team has an alternate decision not listed, please submit it also.

SITUATION #2: EFFECT ON GAME

Choice 1: Decrease production cost 1% Twenty percent probability of delivery problems which result in a four percent decrease in sales.

Printout: Due to delivery problems from foreign supplier, production and sales are cut 47%

Choice 2: No effect.

Printout: Plastic casing supplier informs you that new technology may produce a cost savings of 10-20% soon.

Choice 3: Decrease production cost 1%.

Printout: Your firm experiencing great difficulty in operating the plastic casings plant. However, Your engineer thinks he can achieve efficient operations there within the next period.

Choice 4: 50% chance that supplier will accept offer to buy plant. If supplier rejects offer, he closes casings plant. Firm forced to deal with foreign firm. Twenty percent probability of delivery problems with foreign supplier which result in a four percent decrease in sales.

Printout: The plastic casing supplier has rejected our cut-rate offer and closed his plant. you must purchase casings from the foreign source.

OR

Due to delivery problems from foreign supplier, production and sales are cut 4%.

OR

Supplier accepts Your offer to buy plant. Your firm experiencing great difficulty in operating the plastic casings plant. However, Your engineer thinks he can achieve efficient operations there within the next period.

RESULTS OF CLASSROOM TEST

Introduction

In order to test the hypothesis that business gaming is an effective method of teaching business ethics and social responsibility, a classroom test was administered during the Early Summer Term at the University of Louisville School of Business in May 1974. The experiment was established as a Two-Group Pretest-Posttest design $\begin{bmatrix} R\ O\ X\ O \\ R\ O \end{bmatrix}$ with the control group used to validate the Pretest scores of the experimental group.

The experimental group (E) consisted of forty business school seniors registered for the Business Policy course. The control group (C) were forty senior business students selected at random who were not enrolled in the Business Policy course. This latter group was given the pretest one week after the three week term ended.

Research Methods

Since the time span of the experiment covered only three weeks, the internal validity problems of history and maturation are minimized. Only one section of the particular course (Business Policy) was offered, so the writer felt a posttest of the Control group would not be meaningful. The major objective of the Control group was to validate pretest scores of the experimental group to ascertain if the individuals who registered for the Business Policy course (E) were a representative group of business school seniors.

Test Procedures and Analysis

The instrument used to determine attitude changes was developed, pretested, and refined by the writer during the Spring 1974 semester. The test, a one page questionnaire, was administered to all subjects by the writer. Scores were computed and various statistical tests were applied to compare the pretests of the E and C groups.

Results

The experimental group (those registered for the Business Policy course) had pretest scores which correlate highly with the random control group. The “beginning” attitudes of the E group can therefore be determined with some confidence. In six of seven questions, the attitudes of the E group changed to a more positive view of business ethics (i.e. they became “more”

ethical) and were more socially responsible (i.e. they believed the corporation should be more involved in community affairs and problems). A noticeable shift during the semester occurred in student attitudes concerning the relative importance of profits to social responsibility. At the end of the course, a significant number of students thought that profits were less important than practicing corporate social responsibility. The business game, with its social and ethical implications, was the only definable treatment during the three-week period. One must assume then that the hypothesis is valid and business gaming is an effective method of teaching business ethics and social responsibility.

Critique

The validity and reliability of the test instrument (questionnaire) needs additional documentation. In addition, another classroom test based on a pretest, posttest, control group design, needs to be made. This test should compare the effectiveness of gaming versus another teaching method (i.e. lecture or case study). The comparative effectiveness of gaming would then be more clearly shown. The writer admits his bias toward gaming as a teaching method but did attempt to keep this bias from affecting student opinion during the course. However, it is possible that this bias could have had an effect on the subjects. The results of the game critique do indicate the positive impression the students had toward gaming. Therefore, the apparent change in attitudes of the subjects concerning business ethics and social responsibility in the pretest and posttest could have been caused by selection-maturation interaction or the reactive effects of experimental arrangements.

Conclusion

Based on the results of this project, it is recommended that other teaching methods (case study and lecture) be compared with business gaming. The test instrument needs to be refined further, and administered to several test groups in order to verify its validity and reliability. Business gaming provides heavy involvement of participants in the learning situation, and this is highly desirable according to current learning theory concepts. For this reason, further research should be encouraged on this teaching method.