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THE BUSINESS GAME: A NEW APPROACH TO MANAGERIAL ACCOUNTING

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The use of business games in marketing, management, and finance has grown tremendously, however, very little interest has been shown in business games on the part of accounting instructors. A recent study in accounting revealed that only 8 schools out of 88 surveyed were using games in elementary accounting.¹ The lack of interest in games by accounting instructors is supported by the fact that very few accounting games have been published.

The basic reason for the lack of interest in business games in accounting is that accounting instructors for the most part are committed to the traditional approach of teaching accounting by requiring students to work many problems. Also, until the development of managerial accounting courses in the late fifties and early sixties most courses in accounting did not lend themselves to the use of games. However, managerial accounting with its emphasis on planning and control techniques is an ideal course for the effective use of properly prepared business games. The emphasis on planning and control techniques such as budgeting, performance evaluation, incremental analyses, cost-volume profit analysis, etc. have an obvious direct tie-in to the decision-making process. And decision-making, of course, is the central feature of business games.

For the past two years I have used in my managerial accounting classes a business game which I developed myself.² To my knowledge this game represents the first significant attempt to use game approach as the full basis of a course in managerial accounting.³ My basic objectives here are to (1) describe the nature and philosophy of my game approach to managerial accounting, and (2) give an evaluation of its actual use in the classroom.

NATURE AND PHILOSOPHY OF THE BUSINESS GAME

My basic reasons for developing a game approach to managerial accounting were (1) to add a dimension of reality in which the techniques

¹ Carter, Robert N. and Thompson, John R., "An Identification of Trends in the Elementary Accounting Courses," Collegiate News and Views, Vol. XXV, No. 4, (Summer, 1972).

² The game described has been published: Goosen, Kenneth R., Introduction to Managerial Accounting: A Business Game, (Morristown, New Jersey: General Learning Corporation, 1973).

³ Prior to the publishing of the game described in this article there were no published games in managerial accounting. One reviewer of the game described it as an unique item.

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and concepts of managerial accounting could be used, (2) to allow the student to develop a degree of proficiency in the use of concepts and techniques, and (3) to cause the student by his own involvement in the decision-making process to realize the importance of managerial accounting.

In order to develop a game for managerial accounting I found it first necessary to develop a framework of managerial accounting fundamentals. From the current textbooks and other managerial accounting literature I distilled a list of basic managerial accounting techniques and concepts. Included in this list of techniques were cost-volume-profit analysis, business budgeting, direct costing, capital budgeting, and inventory models. Among the concepts listed were fixed and variable costs, sunk costs, opportunity costs, planning, and control.

In developing the game I was guided by the principle that the game should permit the use of all basic managerial accounting concepts and techniques. It is obvious that the incorporation of the above concepts and techniques in a single game would result in a management type game; however, in this case a management game tailored specifically for managerial accounting.

In managerial accounting, management's primary role is decision-making, and the basic role of accounting is providing information essential to making good decisions. With the basic roles of management and accounting in mind, the following assumptions were explicitly made and utilized in developing the game:

1. Managerial accounting should recognize the organizational and functional aspects of a business.
2. Effective decision-making for both the short run and the long run requires the analysis of economic and accounting data.
3. The effective use of planning and control techniques contributes substantially to profit performance.
4. The skills and abilities of management are critical factors in the successful employment of managerial accounting concepts and techniques.

As a consequence of these assumptions the game was designed to be noninteractive. That is, when the game is played the student teams are managing the same company. Because all teams are competing on an equal basis different results at the end of the game would be due to the differences in the skills and abilities of the student participants. The game developed emphasizes the skill of management as opposed to the many other games which heavily emphasize economic factors such as pricing and competition not subject to managerial discretion. Even though noninteractive the game was sufficiently complex and the

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alternative courses of action adequate so that it was extremely unlikely that any two teams would follow the same strategy or make the same identical set of decisions. The game allowed three types of decisions to be made: marketing, production, and financial. Furthermore adequate information was provided so that effective cost analysis could be made for each decision.

USE OF THE GAME IN THE CLASSROOM

The manner in which games may be used in the classroom varies considerably. Basically, however, there are two broad approaches to using games: (1) games may be used as an integral part of a course, or (2) they may be used as a supplement or adjunct to a course. My approach was to use the game, in essence, as the basis of the course.

The procedure I used in my managerial accounting courses was as follows:

1. The class was divided into teams of two to three members per team.
2. A course outline was prepared in which the ordering of topics was dictated by the requirements of the game.
3. Reading assignments that corresponded to the course outline were made from a conventional managerial textbook.
4. Special problems were created and assigned based on the text to the game. (No problems other than these problems were assigned.)
5. Students were required to maintain a notebook documenting their decisions.
6. Bonus points were awarded according to profit performance.

EVALUATION OF GAME RESULTS

It is difficult to evaluate the success or failure of business games. There is no conclusive proof that games are superior to other methods of teaching. A business game should be judged successful if it produces results equal to that of other instructional methods. However, I personally believe that a good game properly used can make contributions to education that cannot be achieved by other means; that is, games have potential benefits not inherent in other teaching methods. One measure of the success of a game is the students' acceptance of it. A game may be considered worthwhile if the students who participated in the playing of it feel that their time and efforts were well spent.

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The evaluation of the V. K. Gadget Company game will be discussed under the following headings:

- a. Difficulty of game
- b. Time devoted by students to game
- c. Interest and enthusiasm in game
- d. Quality of notebook
- e. Benefit from game

Difficulty of Game

After 2 years of use the general consensus of the student participants was that even though the game was challenging and rigorous it, nevertheless, was fun and rewarding. In a questionnaire given to first students who played the game, 50 percent of the students at the elementary level felt the game was too difficult. However, changes were subsequently made that made the game easier to play without sacrificing the benefits of the game for more advanced students. The basic difficulty of elementary students in playing the game was an inadequate background in management and accounting fundamentals. Special problems called preparatory problems were designed to give the student the necessary background to play the game. Also, special cost analysis forms were designed to make certain calculations easier.

Time Devoted to Game By Students

The time devoted to the game by various teams varied considerably. In response to a questionnaire students indicated that on the average they met as a team from 4 to 10 times, and that the average time of meeting was 2 hours. However, a number of students with whom I personally discussed the game confessed that they got so involved in the game that they spend a minimum of 15 hours on successive weekends. When I asked these students why so much time was devoted to the game when the time was not required or necessary their response was, "We had set a goal to be the number one team and we knew other teams were working hard at the same objective. We were determined to explore every avenue that promised increased profit." Students further commented that the game was fun and exciting so that the amount of time spend was not begrudged. In all fairness it should be noted that the students spending this amount of time were the better students. The marginal elementary accounting student tended to object to the amount of work the game required. The time required by the game did not seem to pose any problems for graduate and managerial Cost accounting students.

Interest and Enthusiasm in the Game

The interest and enthusiasm in the game on the part of my students far surpassed my expectations. The elementary accounts students' initial reaction to being required to play the game was somewhat that of skepticism. However, after having played the game for one period this fear was completely dispelled. After one period of play the students as a whole seemed confident that they could handle the game, although as mentioned above the marginal student seemed concerned that the game would require

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too much time. Graduate students' reaction to the idea of playing the game contrasted significantly with that of the elementary students. The graduate students expressed an eagerness and willingness to play the game which was not diminished as the game was played.

Quality of Notebook

One reason for developing a game approach to managerial accounting was to give students an opportunity to apply managerial accounting concepts and techniques in a realistic atmosphere. In order to have some evidence that students were making a significant use of managerial accounting concepts and techniques a notebook was required of each student.

In the class that was first to use the game no points were assigned to the notebook; however, a failure to turn in a notebook meant an incomplete in the course. As a consequence of no points being awarded the first notebooks turned in on the whole were inadequate. The majority of decisions made by the students were not supported by any cost analysis. However, from personal conversations with students I learned that cost analysis in an informal way was being done but that there was a general reluctance to put down the analysis in a formal manner. In the following classes that used the game a specific number of points were assigned to the notebooks. Also, fairly detailed instructions were given as to what a complete notebook should contain. Following this change in procedure notebooks on the average were substantially improved. Even though a properly prepared notebook required considerable investment of time on the part of students, practically all students agreed that the keeping of a notebook was an essential aspect of the game. In managerial accounting, performance evaluation in terms of planned data is important. The keeping of a notebook made possible the evaluation of actual performance in terms of planned data.

Benefit from Game

Business games are difficult to evaluate, and even though I have no positive evidence that the use of my business game increased my students' knowledge of managerial accounting I am, nevertheless, convinced that the game had the following benefits:

1. An increased interest in managerial accounting was quite evident.
2. Students considered the making of decision in a simulation framework superior to the working of conventional problems.
3. Participation in the game was considered fun and exciting in addition to being rewarding.
4. The importance of managerial accounting concepts and techniques as aids to the decision-making process was better understood.

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A side benefit of the game not directly related to managerial accounting concepts and techniques was that students became significantly aware of the interrelationships of decisions and departmental functions. Also, students expressed the view that for the first time they understood the overall nature of a business. One accounting student stated that for the first time he had become aware that it was just as important to understand how accounting data is generated as it is to work with the data once it is received by the accountant. Until he played the game this student had never given any thought to the source of the data he had been manipulating accounting-wise.

Another benefit of the game was that students as members of a team were compelled to discuss the various ramifications of a proposed course of action. Differences in opinions had to be resolved. The fact that the game required students to work in groups was in itself beneficial to the learning experience.

SUMMARY

The game approach to managerial accounting, I believe, has tremendous potential. However, the game approach will be successful only if the games used are designed specifically for managerial accounting. If one or more games for managerial accounting can be established as having made a significant contribution to accounting education, then more games will undoubtedly follow. The long run benefit will be to further establish the importance of managerial accounting in the business administration curriculum.