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GOAL SETTING OVER TIME IN SIMULATIONS

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ABSTRACT

This paper concerns how player goals change over time during simulation play. The players were college seniors, and goals were obtained via questionnaire given during the third, seventh, and last quarters of an eleven quarter simulation. The results show that profit, competence, and ambition related goals did not change over time, that competitive and survival goals increased with time, and that learning and business growth related goals decreased with time.

INTRODUCTION

This paper concerns how the goals of simulation players change over the course of play. Unfortunately, there is relatively little research on goal-setting processes in simulations. Pray and Gold (1991) have suggested a reason for a lack of concern with goals in simulation play. They found that, in almost all simulations, players start with identical operating and financial characteristics. This discourages goal setting. They also found that very few simulations integrate goal setting as part of the simulation algorithm.

There are a few studies that concern goal setting. Wheatley, Hornaday and Hunt (1986) found that simulations enhanced goal-setting abilities in college students. In a series of studies, Hornaday and Curran (1988) and Curran and Hornaday (1990) found that, under expanding market conditions, firms that formally planned outperformed those that did not, and formal planning included Identifying the goals to be accomplished during play. However Gosenpud, Miesing and Milton (1984) found that formal planning, which also included goal setting, did not help performance. In another series of studies, Gosenpud and Wolfe (1990) focused on the life cycle of simulation teams and found that more goal setting takes place early in the simulation than later and that goals change as the simulation proceeds (especially if a team is not competing successfully).

The present study presumes that goals change over the course of the simulation play. To a greater degree than in the studies referenced above, the present effort explores the personal goals of players (e.g., earn a high simulation grade, get the game over with) as well as business goals (e.g., attain a high market share). This study is useful in that its results will help instructors better understand what students are thinking as they play a simulation.

METHOD

Subjects, Research Design and Procedure

The subjects of this study were 46 students enrolled in two sections of the required undergraduate Administrative Policy course at the University of Wisconsin-Whitewater during the Fall 1994 semester. Each section comprised a Micromatic (Scott et al., 1992) industry and were taught by the senior author of this paper. The simulation ran 11 quarters (rounds) in one industry and 13 in the other. Both industries were identical with respect to decision factor and grading weights. Simulation performance was worth 20% of the course grade, and 5% of the course grade was based on peer ratings of team contribution.

Goals

Descriptions of students' goals for the simulation were obtained via questionnaire. Students were asked, "What are your goals for the simulation. The questionnaire was completed after the third, seventh and last quarter of simulation play. One author of this paper interpreted the content of the responses. These Interpretations were checked by a graduate student, but independent estimates by more than one rater were not made. The data is an aggregate of the sample. No effort was made to follow changes in goal statements for any individual.

RESULTS

Table 1 contains a list of the goals expressed by the students along with the frequencies of expression for the third, seventh and last quarters of the simulation.

Data from this table show that:

1. The number of goals expressed did not vary over time.
2. The following kinds of goals did not vary considerably over time:

*Profit-related (profit, maximize returns, reduce expenses)

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*competence related (make correct decisions, earn an A, get a decent grade, improve)

*ambition-related(win, finish in the top 2, earn an A grade)

3. The frequency of the following kinds of goals increased with time especially from the middle to the end:

*competitive (do well relative to others, not finish last, win, finish in the top 2, move up in the rankings, stay at or near the top, improve)

*survival (get through it without mistakes, get it over with)

4. The frequency of the following kinds of goals decreased with time:

*learning and competence-related (expand knowledge and understanding, learn about decision making, make correct decisions, do well, gain experience in groups, integrate the different business functions)

*business growth-related (expand, increase volume)

DISCUSSION

These results are important for instructors who use simulations. In this study, students were more concerned with learning and therefore probably more responsive to instruction early in the simulation. The results suggest that, later in play, students are more interested in grades and competition. Thus, during the later stages of simulation play, students will likely be more concerned with how what they have learned will help them gain competitively or earn a higher grade before they will be receptive to instruction. Although these results are likely not profound, they confirm the intuitive hypotheses of many of us.

It may be that these results are not generalizable. In this study both industries followed a certain competitive pattern. Both were relatively stable in that the winners led from the beginning and few teams (only 2) gained or lost more than one or two competitive places over the last 80% of the simulation. In this study the expression of some goals increased over time (e.g., competitive goals), others decreased over time (e.g., learning goals), still others stayed the same (e.g., profit goals). It is possible that in industries with different competitive patterns, the pattern of goal expression will also be different. The expression of certain goals will increase

over time, the expression of another set of goals will decrease over time, and the expression of yet another set of goals will stay the same.

TABLE 1: FREQUENCY OF GOALS AT DIFFERENT STAGES OF THE GAME

	<u>Qtr 3</u>	<u>Qtr 7</u>	<u>End of Game</u>
PROFIT RELATED	12	8	10
Make Profits	0	1	0
Maximize ROS	<u>5</u>	<u>6</u>	<u>6</u>
Reduce Expenses	17	15	16
EXPANSION RELATED			
Expand	7	2	0
Increase Sales Volume	<u>5</u>	<u>2</u>	<u>3</u>
	12	4	3
COMPETENCE RELATED			
Make Good Decisions	4	0	2
Improve	1	7	3
Get an A	1	3	2
Get a Decent Grade	<u>0</u>	<u>0</u>	<u>3</u>
	6	10	10
LEARNING			
Expand Understanding	7	3	1
Learn Decision Making	1	5	2
Learn from Mistakes	1	0	0
Gain Exp. In Groups	1	1	1
Integrate Bus. Fnctns	<u>3</u>	<u>2</u>	<u>1</u>
	13	11	5
COMPETITIVE			
Do Well Relative to Others	5	4	9
Not Finish Last	2	0	1
Win	6	7	7
Place in Top 2	4	5	1
Move up	3	5	11
Stay in or Near Top	<u>2</u>	<u>2</u>	<u>8</u>
	22	22	37

References on request from the senior author.