

# Developments in Business Simulation & Experiential Exercises, Volume 12, 1985

## GENERAL MANAGEMENT POLICY SIMULATIONS: WHICH GAMES ARE POPULAR, AND WHY DO PROFESSORS STOP USING GAMES?

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### ABSTRACT

One-hundred professors who are members of the Academy of Management policy division were surveyed as to the use of simulations in the policy/strategy course. The intent of the survey was to determine the extent of usage, the names of the simulations used, simulation relationship to other instructional methods and the percent of final grade attributable to simulation play. Current users were asked if they had stopped using a specific simulation in the past and the reason(s) why. Sixty-four valid responses were received and tabulated. Slightly more than 48% of policy/strategy professors currently use games and they consume approximately 25% of the time spent in the course, slightly behind cases. Almost all require the decisions to be made by student groups.

### INTRODUCTION

Hegarty [4], at the Academy of Management communicated a survey concerning the use of "general management" computer simulations in the policy/strategy course. His results showed that less than 50% of policy/strategy professors use computer simulations as a course component. Wren, Atherton, and Michaelson [15], claimed that younger, more junior, and less experienced faculty rely more heavily on experimental exercises (simulations) to add practical applications to the course. They inferred that younger faculty are not as overwhelmed by computer simulations and experiment more with various instructional methods. Various claims by advocates of simulation technology usually state that the use of simulations will increase over time. Considering Hegarty as a benchmark, the proposition is that simulation use should increase above the 1976 levels in the policy/strategy class. But has it?

Other studies have concentrated on player perceptions and general satisfaction with computer simulation games. The early work of both McKenney [6] and Raia [7] indicated a high level of enthusiasm and motivation of game players and praised simulations as a worthwhile addition to the pedagogical arsenal. Steinmetz [12] also reported high enthusiasm and interest of simulation participants; Sims [11] concluded that simulation techniques can serve as a bridge across quantitative and behavioral theory. Remus [8] found that students enjoyed playing business simulations in the classroom and Barton [1] used 11 years of data to show that games were perceived as a positive learning experience by students.

Another body of literature indicates a negative preference for simulations by players and administrators and questions the value of simulation games as a component of the policy class. Rowland and Gardener [10] stated that course evaluations were higher when computer simulations were not used in the course. A survey by Summers and Boyd [2] found that both business executives and professors rated case analysis and lecture/discussion as the most popular

learning methods. Professors rated simulations in third place ahead of other experimental exercises while business executives rated experimental exercises third and simulations last. Richards [9] found simulations to be appropriate in teaching functional integration, but less effective in the strategic-structural interface in the policy/strategy course. A critique of simulation literature by Greenlaw [3] concluded that the effort and expenditures invested in the development of business games has not been justified by the knowledge of what computer simulations teach, if anything.

Very few experimental studies have attempted to ascertain the learning effects of simulation use. Strother [13], in an intensive experiment with simulations at the graduate and undergraduate level, did not find any evidence to support the hypothesis that students using simulations learned more than non-simulation users. Attitudes toward management and business did not seem to be enhanced through simulation use and game players did not become more highly motivated than nonplayers. On the other hand, Raia [7] compared tests of simulation players and nonplayers and found that students in the simulation groups scored significantly higher on examinations than students in more traditional groups. Wolf and Guth [14] addressed the problem from a different approach. They decided that past evaluations of simulations consisted of before-after tests of unknown equivalency; none had evaluated a "general management" simulation in a pure sense; a game alone versus cases alone as the sole teaching aid. They found that students in simulation classes showed superior concept mastery and equal fact knowledge when compared to those in the case only classes. Although they confirmed earlier studies of increased student motivation and interest, they also found low levels of satisfaction among students whose industries did poorly and overall enthusiasm for the simulation waned as play progressed.

Several questions appear to arise as the literature is analyzed. For instance, which simulations seem to be the most popular and why? How many professors have tried simulations and decided not to use them as a course component? Among professors who have used simulations in the past and do not use them now, the possibility exists that many simulations were dropped as a course component for administrative reasons rather than because the professor questioned the value of the exercise. There might be a significant correlation between brands of simulations that were dropped from the course and the reasons for their demise.

In an attempt to address some of these issues, the purpose of this paper is four-fold. First, what percentage of policy professors currently use simulations in their courses? Second, which simulations seem to be the most popular? Third, why have simulations been dropped as part of the course requirement by professors who have previously utilized simulations? Finally, some future research endeavors are outlined.

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## SURVEY METHODOLOGY

One-hundred professors who are voting members of the Academy of Management teaching the policy course were randomly sampled. The criterion for inclusion in the sample was as follows:

1. Must be a faculty member at a four-year institution, preferably a university, and teaching the business policy/strategy course.
2. No more than two faculty members per institution was permitted. (Although the cover letter was written to a specific faculty member, it asked that the survey be passed along to a colleague if the original respondent did not meet the criteria.)
3. In order to prevent a state or regional bias, no more than 12 faculty members per state was allowed. (40 states were represented in the sample pool.)

The survey participants were mailed a personalized cover letter explaining the intent of the survey along with an eight-item, open-ended, general survey questionnaire. Specifically, the survey instrument addressed the use of simulations as a course component, the prior experiences of professors who have used simulations and decided not to integrate them into the policy course, the names of the games that are currently used, and the relationships between various pedagogical techniques common to the business policy class. Sixty-four responses were received and tabulated. The data were analyzed using conventional statistical methods.

## RESULTS OF THE SURVEY

Of the 64 returned questionnaires, 48.43% of the respondents use "general management" simulations while DISCUSSION 51.57% do not. Almost 16% of the respondent professors had never used a simulation game in the policy/strategy course. (See TABLE I)

TABLE I  
RESPONSES CONCERNING SIMULATION USAGE

| Category   | Percent |
|--|---------|
| Game Usage (64 responses)                          |         |
| Currently Use Simulations:                         | 48.43   |
| Do Not Use Simulations:*                           | 51.57   |
| Total:   | 100.0%  |
| Professors Not Using Simulations<br>(33 responses) |         |
| Have Used Simulations Previously                   | 69.69   |
| Never Used Simulations                             | 30.30   |
| Total:   | 99.9%   |

\*15.63% of all respondents have never tried a simulation.

The frequency of currently used simulations by policy professors is depicted in Table II.

TABLE II  
NAMES OF SIMULATIONS CURRENTLY  
USED IN THE POLICY COURSE

| Name of Simulation Used:                           | No. | %     |
|--|-----|-------|
| The Executive Game                                 | 9   | 29.03 |
| The Executive Simulation                           | 6   | 19.35 |
| Tempomatic   | 4   | 12.90 |
| The Business Policy Game                           | 3   | 9.68  |
| The Business Policy and Strategy Game              | 2   | 6.45  |
| Business Management Laboratory                     | 2   | 6.45  |
| Total of other games receiving one<br>mention each | 4   | 12.90 |
| (Developed Own)                                    | 1   | 3.23  |
| Totals   | 31  | 99.99 |

Of the professors who stated they do not currently use simulation, almost 70% had used a simulation previously and stopped using it as a course component. Five current users had switched simulations due to problems with specific games. Numerous reasons were given for dropping simulations. He results of categorizing the responses are shown in Table III.

TABLE III  
REASONS FOR DROPPING SIMULATIONS  
LISTED BY CATEGORY

| Category of Response:             | No. | %     |
|-----------------------------------|-----|-------|
| Administration and Logistics      | 8   | 25.80 |
| Time Constraints                  | 7   | 22.58 |
| Computer Related Problems         | 5   | 16.13 |
| Game Unrealistic                  | 5   | 16.13 |
| Game Used in Other Classes        | 3   | 9.68  |
| Micro, Not Strategically Oriented | 3   | 9.68  |
| Totals:                           | 31  | 100.0 |

The survey results indicated that there has been little change in the number of business policy professors using simulation in the eight years since the Hegarty article. One reason for this might be related to general skepticism of the value of games, although alternative explanations can be advanced. For instance, the student benefit obtained may be perceived to be inadequate for the effort and complication of game administration. Alternatively, membership in the Academy of Management Policy Division may not have changed composition or the time elapsed may not have been enough to allow for a change in usage. There may be fewer younger faculty moving into the policy area or yester- Professors Not Using Simulations day's younger faculty may have matured and acquired sufficient "war stories" to occupy class time. Other Have Used Simulations Previously 69.69 constraints such as logistical problems may prevent the Never Used Simulations 30.30 adoption of simulations even if the professor desires

In terms of popularity, over 29% of policy/strategy professors use The Executive Game by Henshaw and Jackson and 20% use The Executive Simulation by Keys and Leftwich. Tempomatic, by Scott and Strickland, follows in third place with a frequency of 13%. The Executive Game and The Executive Simulation have been on the market longer than most games refuting the myth that newer is necessarily synonymous with better. These games, in comparison with other simulations, are simpler in the demands they place on the student and the professor. Games that require more decisions by the students and have more complexity such as The Business Policy and Strategy Game (Bates and Eldridge) and Business

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Management Laboratory (Jensen and Charington), were both used by less than 7% of policy professors. Since Raia [7] contended that simple games provided as much benefit to the students as more complex simulations, any game chosen by policy professors should assist in accomplishing course and learning objectives.

Of policy professors who do not currently use computer simulation games as a course component, almost 70% had used a simulation previously while 30% had never tried simulations. The general consensus among the professors seemed to be that administering the game was too cumbersome compared to the benefits received by the students. Time constraints were the second most common reason for dropping the game from the course requirements. The claim was made that the game took too much time away from more traditional teaching techniques. Numerous computer related problems were stated. Here, computer operational problems and access for students were most frequently listed. Comments concerning the realism aspect of simulations and the appropriateness of simulations in the teaching of business policy/strategy concepts and facts were placed in the "unrealistic" category. Many felt that simulations were just "number crunching" and did not accurately portray the strategic management process. Comparing the behavior of simulations to commodity industries, the remark was made that game results tend to be too volatile and difficult to predict from period to period, therefore encouraging decisions to be short-range instead of long-range. A few professors claimed that simulations are too micro-oriented, while another stated that all the students learned was how to play a game.

In relating specific simulations to each of the categories, no commonality or pattern was found. Games mentioned in one category were also mentioned in other categories with no difference in frequency. It was interesting to note that of the two most popular games used in the policy/strategy course only one professor mentioned dropping one of the games because it was too much of an administrative burden. The only generalization that can be made is that many of the simulations dropped are more complex and require a larger number of decisions per period of play.

Many of the professors who indicated that they had dropped simulations from the business policy course requirements stated that their simulation experiences were in the mid-1960's. Many could not remember the names of the simulations they had tried. Considering the changes in computer technology and the development and refinement of various simulations, one has to wonder if a dissatisfying experience with a simulation has altered the perception of these individuals in relation to all simulations.

Based on the observations of the authors and the many comments made on the survey, apparently two opposite forces are debating the value of simulations. Many professors hailed simulations as a technique that when used with other methods, creates a more comprehensive policy/strategy environment. Some had stated that they have used simulations for more than 15 years. Some universities have added a one-hour required game course that is part of the policy/strategy capstone sequence. Other professors who totally rejected simulations stated that games should not be a policy course component since games were "not a creative challenge" and "do not portray a real strategic management process."

### RESEARCH IMPLICATIONS

The results of the survey seem to suggest that many basic

questions remain unresolved and require further investigation. In determining the extent of simulation usage, it would be interesting to longitudinally observe the demographic characteristics of policy/strategy professors who use simulations. Data of this type could provide a profile of professors and institutions who use simulations. There could be biases for or against simulations based on background of the professor, the type and classification of institution, region of the country, and relationship of the policy/strategy course to the rest of the business curriculum.

As far as the popularity of "general management" simulations in the policy/strategy classroom, the reasons why some games are more preferred than others and the extent of usage of these simulations would be of interest to prospective game users or others who are thinking of changing simulations. Asking current users what they would like to see included or left out of simulations would be of assistance to game designers. Surveying non-users as to what factors would cause them to adopt simulations might indicate specific refinements to current or proposed games, or new ways of marketing these games. A comparison of currently used "general management" simulations across a number of factors such as complexity, number of decisions, number of products, etc. may assist a professor in selecting which simulation may best serve overall needs.

Another issue of concern is the learning value of general management simulations. Although this area was not specifically addressed in this survey, the issue needs more investigation. Comparing both perceptual and experimental studies may assist professors in determining which teaching methods are best for specific learning objectives and help in the structuring of the policy course.

It is still the opinion of the authors that the reasons for dropping simulations can be clustered and that specific simulations or characteristics of simulations will be highly correlated to these clusters. It is also possible that there may be some demographic or background characteristic correlated to non-use. A more extensive survey that could erase the stigma of professors perceiving that they were naming "faculty products" may yield 3 or 4 groupings with high association. Peripheral information on the professor, the structure of the policy/strategy class, and the relationships of pedagogical techniques to class objectives gathered with reasons for discontinuing simulations might provide insights beyond just negative game perceptions.

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