

Simulations, Games and Experiential Learning Techniques:, Volume 1, 1974

AUTOCRATIC vs DEMOCRATIC DECISION MAKING: THE EXECUTIVE GAME AS AN EXPERIMENT

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The EXECUTIVE GAME (Henshaw & Jackson, 1966) is a computerized simulation of a manufacturing firm (one product) where players are required to make a series of decisions on the price of a product, marketing costs, production level, research and development expenses, plant investment, and dividends in a dynamic and competitive business situation. Total time represented is two years of operations, with each decision representing one quarter of a year. Nine firms constitute the “industry” and computer printouts provide both industry and company data in the form of operating and financial statements, to include a Profit and Loss statement, Cash Flow, and a Balance Sheet.

While simple in comparison to an actual firm, the game appears to provide a relatively complex task suitable for experimental use in the study of variables related to small group and management research.

The following study was undertaken to demonstrate a possible use of this task.

Method

Subjects were students and their instructor in a Principles of Management class. All activity involving the Game, including the decisions made was a part of the regular class routine, scheduled over an eight week period. The students comprised a group of decision makers for Firms 1 thru 4 and the instructor made decisions for Firms 5 to 9. While the student groups were aware that the instructor was making these decisions, no discussion was conducted concerning the rationale on which they were made.

Since no attempt was made to influence the firms managed by student groups, they are considered only to provide a competitive environment for the simulated group’s decision making.

Decisions for Firms 5 to 9 were actually based on fixed decision rules involving some combination of high (\$6.50) or low (\$6.30) price with appropriate decisions in the related areas (e.g., lower or higher production). The pattern for eight decisions, showing the price element only, is shown below:

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Firm	Decision Number (Price Only)							
	1	2	3	4	5	6	7	8
5	Lo	Hi	Hi	Lo	Lo	Hi	Hi	Lo
6	Hi	Lo	Lo	Hi	Hi	Lo	Lo	Hi
7	Lo	Lo	Lo	Lo	Lo	Lo	Lo	Lo
8	Hi	Hi	Hi	Hi	Hi	Hi	Hi	Hi
9	<u>HiLo</u>	<u>HiLo</u>	<u>HiLo</u>	<u>HiLo</u>	<u>HiLo</u>	<u>HiLo</u>	<u>HiLo</u>	<u>HiLo</u>
	2	2	2	2	2	2	2	2

If each of these decisions is considered to be result of a combined effort of two (simulated) group members, and one member always insists on a high price while the other calls for a low price, then firms 5 to 8 may be viewed as resulting from some arbitrary or “autocratic” decision on any given trial, while Firm 9 (by averaging) allows equal weight to the demands of each member in a “democratic” compromise. (Price for Firm 9 was always the mean of Firms 7 and 8, or $(\$6.50 + \$6.30) / 2 = \$6.40$)

While Firm 9 provided a decision rule to insure a democratic or balanced (High & Low) decision being made on each trial, some action was necessary to obtain a comparative measure representing the autocratic situation. This was accomplished by taking the mean output on each trial resulting from two autocratic series (Firm 5 & 6) for comparison.

The performance measure (output) was taken to be the amount added to Owner Equity (or Net Worth) as a result of each decision.

Results

The results of the two patterns of decision-making by the simulated firms are shown in Figure 1.

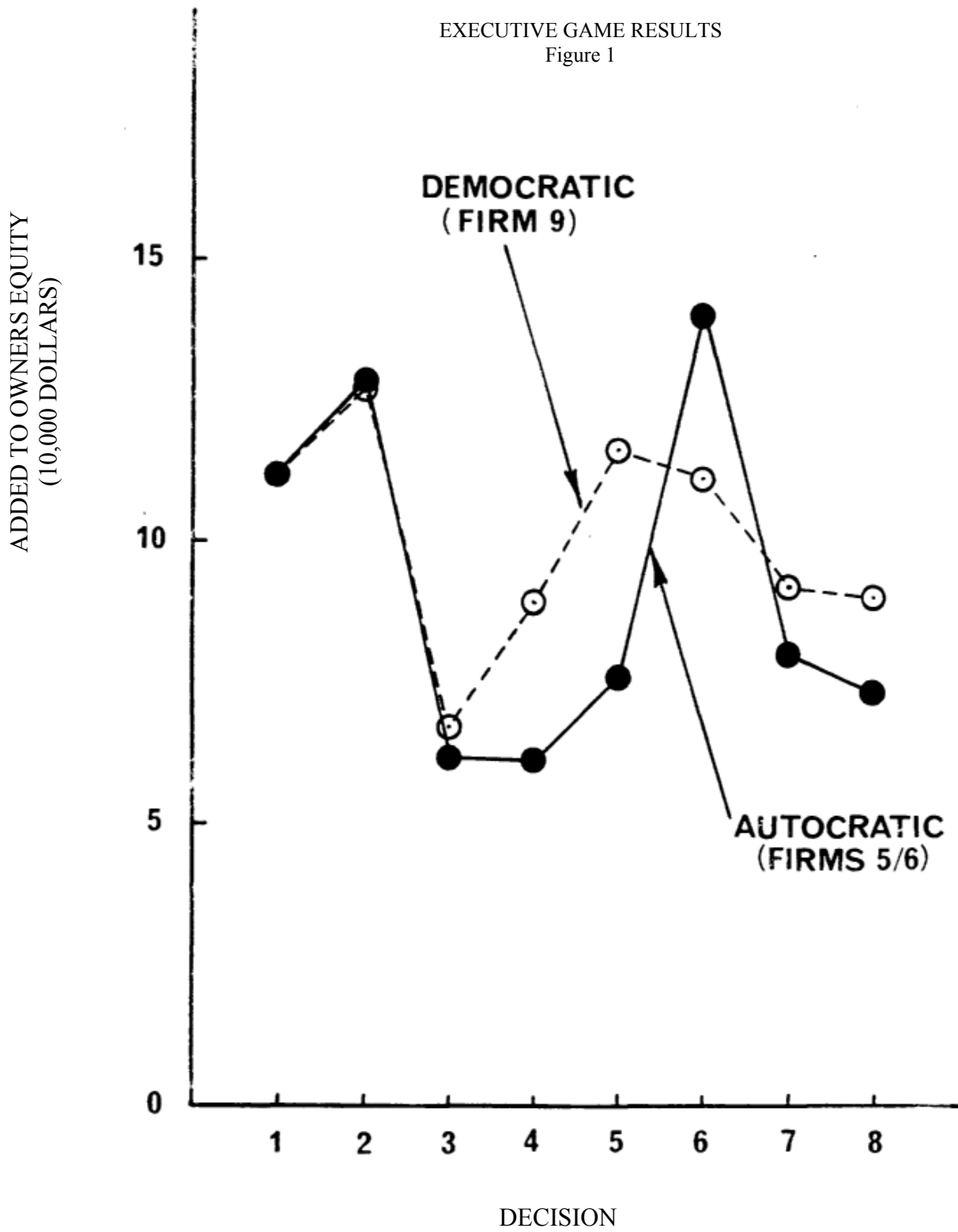
Insert Figure 1. about here

The general pattern of results suggests an advantage for the democratic form of decision making when conducted according to set rules of behavior.

Discussion

The study reported here concentrated on the use of fixed decision rules to simulate autocratic vs. democratic conditions in an attempt to demonstrate the use of a computerized game to generate data. Since the experiment took place in a classroom where student firms competed with each other in a simulated industry environment no attempt was made to manipulate the student firms. Student groups could obviously be used to study the effect of group size by the assignment of 1, 2, 3 or more

EXECUTIVE GAME RESULTS
Figure 1



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students to each. If desired, a single firm could be studied with specific patterns of behavior programmed for the other eight firms. Variables within the industry could also be changed one or more at a time. Individual vs. group, type and amount of feedback, group structure, speed of decision and sales forecasting are but a few of many possible areas in small group or management research which could be investigated.

Other possibilities are suggested by the use of more complex games which could form the basis for computer simulation and experimentation with an even wider range of group and organizational concepts. Steps in this direction have already been demonstrated by Meier (1969) and others. For the present, the search for a wider range of experimental conditions and better controls over more variables as crudely demonstrated in the study described in this paper may eventually contribute to a true social science of management.

REFERENCES

1. Henshaw, R. C. Jr., & Jackson, J. R. The Executive Game,(Homewood, Illinois, Richard D. Irwin, Incorporated).
2. Meier, R. C., "Decision Making versus Strategy Determination: A Gaming and Heuristic Approach." In Wortman, M. S. & Luthans, F., Editors, Emerging Concepts in Management, (London, Macmillan Company, 1969).