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## CEO II: A GAMING SIMULATION FOR ASSESSMENT

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### ABSTRACT

Although gaming simulations have been criticized for lacking behavioral variables and being administratively time consuming, they are especially suited to assessing business learning because they give objective scores, and can be comprehensive, flexible, and easy to administer. CEO II overcomes the criticisms by gaming behavioral variables and automating decision processing. Notable features include progressive complexity, individual and team tracking and scoring, market-based scores, market analysis support, strategy decisions, network cognizance, and quality management.

### OVERVIEW

Although assessment in higher education has been a widely discussed issue over the last decade (Boyer, 1990) the use of gaming simulations for assessing business learning has received scant attention. Yet, business gaming simulations are especially suited to this purpose because they give objective scores and can be comprehensive, flexible, and easy to administer. Even so, they have often been criticized for lacking behavioral variables and being administratively time-consuming (Keeffe, Dyson, & Edwards, 1993; Williams, 1993).

Commonly, designers attempt to meet the criticisms by including descriptions of critical incidents and by making the administrative processing of decisions less time consuming. Still, these approaches can be unsatisfactory because descriptions merely disguise mathematical models without changing their quantitative nature, and because speeding administrative processing does not eliminate the concomitant need to manage the submitting, processing, and returning of decisions and results.

CEO II takes different approaches. It includes behavioral variables not by describing them but by gaming them, thus making them genotypical to their counterparts in the everyday world. It eases administrative effort not by speeding the processing of decisions but by automating it, thus completely eliminating the administrative handling of decisions and results.

CEO II games behavioral variables by gaming both product and stock markets (Thavikulwat, 1990). Besides selling products to a traditionally modeled market, companies can sell them to individual participants, who receive income to enable their purchases. Besides borrowing funds from a traditionally modeled bank, companies can raise funds by selling stock to participants, whose investments are returned through dividend payments.

CEO II automates decision processing by asynchronously matching companies and customers, and by allowing participants themselves to drive the competition forward (Thavikulwat, 1994). The instructor regulates the competition's progress merely by announcing continuation codes that the program requires from participants at preset intervals.

### NOTABLE FEATURES

CEO II includes the usual comprehensiveness and ease-of-use features that would be expected of any total enterprise gaming simulation, and the following:

- *Progressive complexity.* The number of decisions available to each company can range from 0 to 75; the number available to each

individual consumer-investor can range from 0 to 10. As preconfigured companies start as single-participant, single-plant firms and expand to several-participant, three-plant firms, with the number of decisions increasing as the competition advances.

- *Individual and team tracking and scoring.* Each participant is tracked and scored, in addition to each team. Each participant can make independent consumption and investment decisions.
- *Market-based scores.* Because the individual and team scores result from the activities of gamed markets, which are genotypical to their counterparts in the everyday world, the scores are veridical measures of success under real-market conditions. No contention of verisimilitude is needed, for the markets are real.
- *Market analysis support.* A program tabulates and plots gamed-market transactions to the participants' selected level of aggregation. Product-portfolio matrices are included.
- *Strategy decisions.* Companies make strategy decisions by changing gaming parameters at critical junctures. Executed without administrative mediation, the changes can affect cost, volume, quality, financial, or marketing constraints.
- *Network cognizance.* When installed on a local area network, multiple participants can enter interdependent decisions virtually simultaneously.
- *Quality management.* Products can be defective. Product defects have both assignable causes locatable by experiments and random causes controllable by inspection.

### EQUIPMENT REQUIREMENT

Although CEO II will run on any IBM-compatible machine with at least 640 kilobytes of memory, its automated administration feature is best utilized on a local area network. Recommended system software are DOS 3.1 + and Novell NetWare.

### AVAILABILITY

The original manuals and diskettes for CEO can be obtained from McGraw-Hill, Inc., phone 800-338-3987. Supplemental manuals and diskettes for CEO II, the upgrade, can be obtained from the author at the Dept. of Management, Towson State University, Towson, MD 21204-7097, phone 410-830-3230, fax 410-830-3236, e-mail thavikulwat-p@toe.towson.edu or thavikulwat-p@towsonvx.bitnet.

### REFERENCES

- Boyar E. L. (1990) *Scholarship Reconsidered*. Princeton, NJ: Carnegie Foundation
- Keeffe, M. J., Dyson, D. A., & Edwards, R. R. (1993) Strategic management simulations: A current assessment. *Simulation & Gaming*, 24, 363-368
- Thavikulwat, P. (1990) Consumption as the objective in computer-scored total enterprise simulations *Developments in Business Simulation & Experiential Exercises*, 17, 1 67-1 69.
- Thavikulwat, P. (1994) Activity-driven time in computerized gaming simulations. *Developments in Business Simulation & Experiential Exercises*, this issue.
- Williams, E. L. (1993) Computerized simulation in the policy course. *Simulation & Gaming*, 24, 230-239