

# Developments in Business Simulation & Experiential Exercises, Volume 9, 1982

## EXPAND THE ROLE OF YOUR SIMULATION WITH CREATIVE SCENARIOS

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### ABSTRACT

Business simulations can be integrated into course content by use of scenarios. Too often, a simulation is an "add-on" that is more like a separate course than an important element of an integrated learning experience. Most simulation models have built-in events that the instructor can schedule during the term. These are helpful for relating the simulation to other course material but are limited in scope and subject matter. This paper proposes that the instructor create scenario incidents that directly teach the concepts included in the course and apply them in the setting of the simulated organization. This will not only expose students to the concepts, but will enhance the simulation experience. Students will consistently play their roles as organizational managers when they deal with the scenario incidents as well as when they make decisions for the simulation model. It is a good way to combine the course activities and make them an integrated, consistent learning experience.

### INTRODUCTION

The primary purpose of most business simulations is to provide hands-on "real life" experiences for students. The basic idea is that the experience of participating in a simulation exercise will excite and satisfy them more than reading or listening. This will motivate them and they will learn. The instructor's job is to integrate simulations into the course so they reinforce the learning from other course activities. Some instructors build their courses around the simulation and feature it as the primary course activity. Too often, however, simulation is an "add-on"; an exercise apart from the lectures, readings, or cases that make up the core of the course. Sometimes, a game administrator runs the simulator and the instructor never gets involved. This degrades the role of simulation and minimizes its usefulness.

Simulation can be coordinated with other course activities. To do this, you must know your simulation model and carefully plan its role in your course.

### THE ROLE OF SIMULATION

Simulation models try to replicate "real-life" activities by making key functions, such as production and finance, react to management decisions as they might react in the real world. However, no model can encompass all the elements, facets, and perturbations of life. Since there are very few certainties in the world, the models must include uncertainties and unusual events. Otherwise, they would fall far short of the realism demanded of them. Uncertainties are usually incorporated by Monte Carlo techniques. Unusual situations are incorporated by scheduling scenario events during the course of the simulation.

In most models, the instructor schedules and controls scenario events. By changing values in the instructor cards, the game administrator can usually change costs, interest rates, and other variables. The availability of these options depends upon the simulation model being used. Some

models even allow the instructor to vary the range of probabilities in Monte Carlo routines. By knowing what the model offers, you can emphasize particular scenario events when related topics are covered in class. Further, you can write your own scenario events and introduce them at the appropriate time in the course.

### INSTRUCTOR-CONTROLLED AND INSTRUCTOR-DESIGNED SCENARIOS

Scenario events are not automatically triggered within the model. They are available for use at the instructor's discretion. Various models differ in the array of events available. However, many of them offer the following. To simulate inflation, you can schedule regular price increases for materials or services. To simulate union activity, you can set a time for the labor contract to expire and conduct negotiations between management and labor. You can change interest rates, productivity, carrying costs, buying costs, maintenance costs, overhead rates, advertising costs, attrition rates, and several other variables. The list of these events is related to the model in use and is explained in the instructor's manual.

If you use only the events designed for a particular simulation model, you will be unduly restricted in trying to integrate the simulation into your course. Why not design your own incidents and include them in the game scenario. They will be tailored for your class and will enhance both the exercise you invent and the simulation activity.

When you introduce a unit on planning, have a planning workshop for your simulated company managers. Have them do a situation analysis, set objectives select strategies, and write implementation plans. You can grade their plans and offer suggestions for improvement. They can play out their strategies by implementing them in their game decisions.

If your topic is conflict management, you might create a fictitious situation in which two middle managers in the simulated company have a serious disagreement. How can it be resolved to the benefit of both the individuals and the organization?

You might teach group dynamics principles by making the simulation teams aware of roles that they and their classmates assume in planning meetings. The groups you have organized to carry on the simulation are ready-made for exercises like this. It is not far different from the way you would probably handle it without the simulation.

A contracting situation could be taught by having the simulated companies receive an invitation for bid to sell some of their products to the government. They could examine their capabilities and submit competitive bids. It may take some ingenuity on your part to include the successful contract in the simulation, but it can be done in many models. If not, the results can be added manually to the simulation output.

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The possibilities for introducing incidents like the ones just described are indeed limitless. Any event you can envision in a "live" organization can be written and introduced as a scenario event related to the simulation. Even if the results cannot be entered quantitatively into simulation results, the setting can be in the simulated organization.

### EXAMPLE

#### Scenario Event

Bidding on a government contract.

#### Purpose

To teach students the importance of good planning and analysis in competing for a one-time contract.

#### Situation

Simulated companies are producing and selling products according to demand forecasts. The government issues a public Invitation for Bid (IFB) to buy a large quantity of the products to be delivered at a specified time. Companies may bid on any part of the quantity needed.

#### Procedure

The game administrator should schedule this event to occur in the simulation after student teams have had time to become familiar with the model and to be able to compute unit costs and contribution margins. Steps for administering this event are:

1. Prepare the Invitation for Bid (see Exhibit 1)
2. Make sure that all simulated companies get copies of the IFB at least two decision periods before bid opening is scheduled. Students should have time to plan for extra production, if needed.
3. Conduct a formal bid opening at the appointed time with all bidders present. Accept no late bids. Open bids in order received (or randomly) and write quantities and prices on the board.
4. Award contracts to the lowest bidders up to the quantity required by the government.
5. When the delivery period arrives, adjust inventories and accounts receivable to reflect the quantities sold by the successful bidders. (Note: if your simulation has no provision for such adjustments, you can change the appropriate fields in the history (or carry over) cards or adjust the reports manually. Any company with insufficient inventory to cover normal demand plus the government contract should be penalized.

#### Learning Outcomes

Student managers must evaluate their firms and decide the price and quantity they would like to sell in addition to their normal sales. This involves an analysis of inventories, costs, lead times, plant capacity, worker availability, and cash flows. They must investigate how much they can offer and what prices they should bid. This exercise is exceptionally good for teaching the value of knowing direct costs and

contribution margins. Since fixed costs are covered by normal sales, any price over the variable costs will add to profits. The objective is to bid high enough to make a good profit but not so high that the sale is lost.

### BENEFITS

By creating your own scenario events, you not only teach the concepts intended, but you enhance the simulation experience. Students will immerse themselves in their simulated management roles. If most class activities are within the setting of the simulation, you will gain a greater appreciation for the simulation and the teaching power of the roles your students must play. The simulation will not be a separate part of the course. It will be an integrating vehicle for the topics you plan to teach.

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## EXHIBIT 1

GENERAL SERVICES ADMINISTRATION

CHIEF OF PROCUREMENT

Washington, D.C.

September 20, 1981

Enterprize Firms  
Wright State University

The Office of the Chief of Procurement, General Services Administration, solicits bids to supply a special order of the following items:

<u>Product</u>	<u>Quantity Desired</u>
No. 1	<u>50,000 units</u>
No. 2	<u>40,000 units</u>

Items will be shipped FOB: supplier's plant. Any specifications, packaging, special conditions and terms of payment are hereby made a part of this IFB.

The deadline for submitting bids is October 15, 1981. Delivery will be made in Quarter 16. Awards will be made to the low bidder(s). Accepted bids will be announced the same day and delivery will be required within 80 days of notification of award. The government reserves the right to reject any or all bids. Bids will be opened promptly at 2:30 p.m. in Room 219R. No late bids will be accepted.

Interested firms may submit bids on the attached form. Firms may bid the total quantity or any portion thereof. Instructions for keypunching accepted bids on decision cards will be given when awards are announced.

Sincerely,

  
Bee Ann Agent  
Contracting Officer

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Company No. _____		Bid Form
<u>Product</u>	<u>Quantity Bid</u>	<u>Price Per Unit</u>
No. 1	_____	\$ _____
No. 2	_____	\$ _____