Developments in Business Simulation & Experiential Exercises, Volume 14, 1987

AIRLINE: A STRATEGIC MANAGEMENT SIMULATION

Jerald R. Smith, University of Louisville
Peggy A. Golden, University of Louisville

ABSTRACT

This paper describes a new PC-based computer simulation which is unique in two respects: it is modeled on a service industry, and it begins with a case study.

Overview

Airline: A Strategic Management Simulation (Smith and Golden, 1987) presents a novel format for simulation games. It provides new dimensions in three areas:

1. The players manual includes a case study of an actual commuter airline.

2. The players manual includes peripheral classroom materials including outlines for strategic plans, industry studies, annual reports to stockholders, strategic audit instruments and peer review.

3. The game simulates the commuter/regional airline business which is a service industry.

These features permit the instructor to treat the simulation as the core of a strategic management or marketing strategy class.

The case (Mid-Continent Airlines) is based on Midstate Airlines which is a privately-owned commuter airline serving the upper Midwest. The management problems presented in the case are not difficult to understand yet can be solved by a number of strategic options. Solution of the case early in the semester assists the students in understanding the business relationships involved in the operation of the airline that they run in the simulation.

The simulation is a highly competitive, market-driven game that allows a full-spectrum of strategic decision-making. Student teams make 28 decisions involving marketing, human resource, operations, financial and capitalization strategies. In addition, there is an option to purchase market research studies. Each decision set has an associated incident or mini-case.

These special decisions involve social responsibility issues as well as diversification options and other strategic management problems.

Logistics

Airline supports 4-12 student teams of 3 to five players each. This means that it can be used by a class ranging from 12 to 60 students. The number of markets available to the students expands as teams are added. This unusual feature provides an appropriate marketplace regardless of the class (industry) size.

Under normal circumstances a class would be treated as an industry. If it is to be used in a "mega- section," several industries can be created.

The simulation is designed to run on an IBM-PC compatible computer with 256K of memory and 2 disk drives. It is written in compiled BASIC and the algorithms that compute student results take approximately 1 minute to run. Instructors have two options for running the simulation:

1. Students input their own decisions, turn in a disk for computation, and then print their own reports.

2. The instructor inputs decisions from student decision forms and prints the reports.

Curriculum Organization

In a typical 15 week semester, the use of Airline would begin the second week of the semester with the case assignment and an introduction to the simulation. At this point, student teams are formed. The optimal team composition is a member from each of the functional disciplines. However, there is no magic formula for success as long as the members can work together in the decision-making processes.

The case analysis leads logically into the development of a strategic plan for the simulation. These activities assist in team formation and lead naturally to the first decision set for the simulation. The simulation can then be started week 4. The end of "1 year" coincides with midterm. At this point, student teams may be asked to perform a strategic audit, present a stockholders report or both. The second year of play includes some difficult incidents that involve external diversification and corporate image decisions. The third year of decisions permit refinement and honing of the skills gained earlier in the semester. Appendix A shows a typical syllabus.

The Instructor Perspective

If the simulation is used as described above, the instructor may need some minimal preparation prior to the beginning of the semester. This involves becoming familiar with the organization of the manual, the scenario of the simulation, the rules of the game, and the processing of the simulation.

The actual content of the players manual is 100 pages including an annotated sample decision form, a sample printout, incidents and historic operating data. The case is approximately 18 pages long. The remainder of the manual contains guidelines for strategic planning, implementation and evaluation. There are some cosmetic features including sample maps and descriptions of available aircraft equipment.

The game has few rules and the acceptable ranges for decisions are printed on the decision forms, input screens and error trapped in the software. Instructors need to be familiar with the scenario and simulation options; however, expertise in the commuter airline industry is unnecessary.

The software package Includes an administrator's disk and a student disk. The student disk may be used if the students have access to a PC workstations for students to enter their own decisions and print their own reports. The administrators disk contains all the necessary programs to input decisions, transfer decision files to and from student disks, process

the industry and print reports. It also contains an administrators report and utilities to restore student files. The software is menu driven with on-screen instructions; a typical processing cycle for a twelve-team industry takes about 30 minutes if the instructor inputs decisions and prints results. It is considerably faster to use the student disk option.

It would be beneficial for the instructor to run a sample industry with some colleagues or student assistants in order to get a "feel" for the game. This can be adequately experienced with 4 companies in an industry run for 2 or 3 quarters. Such a pre-game experience will make the instructor familiar with the software and the manual.

Grading the Simulation

The authors weigh the simulation as 50% of the semester grade with additional points for peripheral activities such as stockholder's reports, audits and strategic plans. Students are required to turn in weekly decision packets that include minutes of team meetings, rationale for decisions, and any analyses performed. Grading the simulation is about the same as grading a major case-study. It consists of objective measures (return on sales, cash management, asset management) as well as subjective measures such as learning-curve improvement, peer review, and assessment of risk-taking behaviors.

Summary

Airline is in its third semester of use and appears to provide a core learning experience for business policy curricula. It addresses the AACSB common body of knowledge areas. In addition, students are enthusiastic about the simulation since the turbulent industry simulated by the game provides classroom excitement.

APPENDIX A

Sample Syllabus

Week 1	General introduction to business policy
Week 2	Introduction to simulation, team formation, airline industry study assigned
Week 3	Mid-Continent Case due
Week 4	Strategic plan and decisions for quarter 9
Week 5-7	Decisions for quarters 10-12*
Week 8	1st year audit
Week 9-12	Quarter 13-16 decisions**
Week 13	Stockholder's report; quarter 17 decisions
Week 14-15	Quarter 18-19 decisions

Finals week Final audit (quarter 20 decisions)

*Students design spreadsheets and other decision support tools.

**The incidents associated with these quarters lend themselves to classroom demonstrations of expert systems.