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SALESHIRE: A MICROCOMPUTER-BASED SALESPERSON SELECTION EXERCISE

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ABSTRACT

In this paper a microcomputer-based simulation exercise designed for use in a sales management course is described. Students are responsible for implementing various decision rules applicable for the selection of a salesperson to fill a vacancy in a sales territory.

INTRODUCTION

Sales management is a functional business area which in the past few years has received the attention of a number of experts in the area of simulation games and experiential exercises. Day (1986) and Day and Dalrymple (1985) have presented a comprehensive simulation of a number of sales management activities. Other commercial software packages are also available (Gray, Gentry, and Manzer 1986). Boone, Kurtz, and Braden (1978) may well have started all of this with their early contribution to the area.

These comprehensive exercises incorporate several decision areas into a single program. They are intended to expose students to the various sales management decision areas and some of their interrelationships. The major difficulty in utilizing such games is that students need to be familiar with most sales management functions prior to playing the games. Yet students do not usually gain this knowledge until late in the course, usually too late to play enough game sessions to appreciate the lessons inherent in the game.

The option for the sales management instructor is, however, to utilize simpler exercises which focus on only one decision area. For example, Gray, Gentry, and Mantzer (1986) have conceived an exercise to teach business students how to evaluate salesperson performance. Bowte (1984) has developed an exercise to demonstrate some of the basics of sales/marketing cost analysis. Stevenson (1987) has offered a game to help students understand strategic sales planning problems.

The purpose of this paper is to show a microcomputer-based exercise designed to familiarize sales management students with some of the problems and decisions in another fundamental area of the sales manager's responsibilities (and thus a common topic in a sales management course): trying to hire people to fill vacancies in a professional salesforce. The student is presented with a description of an unassigned sales territory and must choose someone to work there. Essentially the student acts as the sales manager for the hypothetical company. Characteristics for the company, sales territory, and sales manager are provided. Based on various decision rules, the student selects a salesperson from a pool of applicants.

The instructor must specify certain parameters at the outset of the game to establish a framework within the which the student-sales manager operates. Basically the instructor "designs" the type of hypothetical firm for which the sales manager works. The fictitious firm can be redesigned as the instructor sees fit.

The student must then answer a series of computer prompts to assign weights to the variables comprising the decision rule. Given the final form of the decision rule, the primary

program generates a list of job candidates selected from an inventory of hypothetical resumes.

GAME MODULES

SalesHire is written in Turbo Pascal, version 3.01A (Borland 1986). The program is composed of two separate modules. Module one contains a supervisory program through which the instructor specifies various information about the hypothetical company employing the student sales manager, as well as territory description data. Once entered into the computer, the data for module one is saved to two user-specified files which the students utilize when running the simulation. Module two is the simulation module for students who are acting as the hiring sales manager.

Module One

Description of Company. The student assumes the role of sales manager for one of the hypothetical firms outlined in Table 1. The firms are described in terms of numbers of employees and salespersons, annual revenue, numbers of competitors and products, and a comparison of how the firm's products compare with those of the competition in terms of price and quality.

TABLE 1
PROFILE OF FIRM EMPLOYING THE STUDENT-
SALES MANAGER

| Characteristic | Firm | | | |
|------------------------|--------|---------|---------|-----------|
| | ABC | DEF | GHI | JKL |
| # of employees | 30 | 200 | 1200 | 8,000 |
| annual revenues (000s) | 2,000 | 10,000 | 80000 | 2,000,000 |
| # of salespeople | 4 | 16 | 80 | 400 |
| products sold | 2 | 16 | 180 | 1,400 |
| relative price | medium | average | low | high |
| relative quality | medium | high | average | high |

The current values for these parameters are included in Table 1. However, the instructor can alter these to fit the needs of the class, location of the school, etc. When the student signs on the PC, he/she will be presented with one of the firm configurations shown in Table 1 as selected by the instructor. An alternative approach, allowing the program to generate randomly the company configuration is currently being tested. We prefer, however, to specify the firm's characteristics so that, for example, the differences of small versus large organizations can be stressed.

Description of Territory. The territory in which a sales job opening has occurred is also specified by the instructor. Territory variables include the state in which the territory is located, size (in square

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miles), population, size of largest city, number of customers, number of prospects, sales volume last year, percent of quota achievement by prior salesperson, and the firm's market share last year.

TABLE 2
PROFILE OF VACANT TERRITORY

| Characteristic | Territory | | | | |
|----------------------|---|---------|-------|---------|--------|
| | 1 | 2 | 3 | 4 | 5 |
| geographic location | Michigan | NY | Texas | Calif. | Cob. |
| size (square miles) | 50 | 1,200 | 5,000 | 800 | 90,000 |
| population | 6.5M | 600,000 | 3.24 | 4.0M | 7.0M |
| size of largest city | 4.0M | 63,000 | 1.2M | 800,000 | 2.5M |
| # of customers | 50 | 800 | 120 | 200 | 1,300 |
| n of prospects | 150 | 400 | 600 | 1,000 | 4,000 |
| volume last year | -- depends on company size (Table 1) -- | | | | |
| % quota last year | 100 | 110 | 95 | 100 | 80 |
| market share | 35 | 10 | 5 | 25 | 3 |

Once again some sample values for the territorial variables are suggested, but the instructor can manipulate them as needed. And, again, we have developed a program to generate Table 2 information randomly.

Description of Sales Manager Position. The student also assumes certain basic characteristics of the sales manager's role (See Table 3). These variables are pre-assigned to students and therefore are not directly a part of the computerized simulation exercise.

The student must explain how these different sales manager features affected his/her decision-making during the exercise.

TABLE 3
PROFILE OF HYPOTHETICAL SALES MANAGER

| Characteristic | Firm | | | |
|---|--|----------|----------|----------|
| | ABC | DEF | GHI | JKL |
| years with firm | 6 | 10 | 4 | 22 |
| Years as SM | 2 | 4 | new | 14 |
| of salespeople subordinates | - depends on number of salespeople (Table 1) | | | |
| compensation last year | \$32,000 | \$46,000 | \$48,000 | \$66,000 |
| compensation for average SM in industry | \$32,000 | \$42,000 | \$49,000 | \$81,000 |

Module 2

The second module contains the basic simulation program for students. Initially, students are prompted for the filename containing the company data and the filename which includes the territory data. These data are displayed on the screen in paragraph format. Students use this information to select various decision rules.

Description of Selection Decision Rules. Decision rules are displayed following the company and territory description

screen. Two decision rules have been developed at this time. Considerable experimentation is still being conducted in this area to develop rules which reflect real-world attitudes. We are examining the personnel literature to extract additional decision rules and to tie the current model to empirically identified behavior.

One of the major goals of the game is to demonstrate to students that selection decisions are hard to make because too much irrelevant data are sometimes available. Another lesson focuses on the difficulty of deciding which information is most important. Often the sales manager does not know how to sort through existing resume information in any systematic fashion. These two decision rules provide such a framework, albeit the results may very well differ from students' intuitive selections. Of course, this is a valuable lesson for students to learn because participation in this exercise could lead to improvement in defining salesperson selection criteria. Such improvements in goal-setting due to simulation experiences have been documented elsewhere (Wheatley, Hornaday, and Hunt 1988).

The first decision rule requires the user to specify three (from a choice of five) criterion variables. The five variables are: education level, selling experience, product knowledge skills, verbal skills, and income requirements (See Table 4). After selecting three variables, the user is prompted for minimum values for each. The program then sorts through the pool of resumes, deleting the resumes which do not meet the user-specified minimum requirements. The qualifying resumes are then displayed on the screen.

TABLE 4
PROFILE OF APPLICANTS FOR SALES POSITION

| |
|--|
| Name |
| age |
| race (Black, Caucasian, Hispanic, other) |
| sex |
| marital status (single, married, divorced) |
| number and ages of children |
| current address |
| quality of personal health (5 levels) |
| education level (high school, some college, undergraduate degree, some graduate school, graduate degree) |
| prior selling experience (in years) |
| prior selling experience with competitors (in years) |
| annual income (last year) |
| product knowledge (test score) |
| verbal skills (test score) |

The second decision rule involves the user suggesting weights for up to five criterion variables. For this rule, the variables are: education, prior selling experience, selling experience with competitors, product knowledge, and verbal skills. All criterion variables have been converted to a five-point scale. For education, high school graduate equals one, and a graduate degree equals five. For prior selling experience and selling experience with competitors, the actual years have been divided by five to obtain a number from one to five. The program limits selling experience to 25 years or less. Product knowledge and verbal skills, originally test scores, have been divided by 20.

All weights specified must total one. A separate total is then computed, based on the weighted criterion variable for each resume. Each individual's number is then stored with his/her resume in the linked list.

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The pool of resumes is sorted based on this computed number. The three resumes with the highest number are selected and displayed.

Description of Prospective Salespersons. Resume information is stored in a supplementary data file. Instructors can add or alter the resumes by using some type of ASCII editor. The simulation reads in the resume data and builds a linked list of records. Each record contains one resume. There is no limit to the number of resumes that can be used. Currently, a file containing 50 resumes is available from which to select someone to fill the sales position. Considerable data are included for each candidate (See Table 4). Some information may not be legally obtainable via application forms, but it can be gathered indirectly during an interview.

DISCUSSION

We have used SalesHire for three semesters at this point. Based on our experiences, certain suggestions can be made to potential users. First, SalesHire is a useful tool for the beginning sales management instructor, particularly one with little selling or sales management experience. Such professors will not have been involved in salesperson hiring decisions; therefore, they will have little to offer students beyond standard textbook descriptions. SalesHire allows this instructor to focus the students on a realistic hiring situation to apply their textbook-based knowledge. The classroom discussion emanating from different students utilizing different hiring decision rules can provide a useful framework for demonstrating or reinforcing lecture/text declarations. As Fritzsche (1987) points out, microcomputers make such demonstration easy and accessible to students.

We have also confirmed another advantage of SalesHire for the Inexperienced marketing professor. Henke, Locander, Mentzer, and Nastas (1988) found that games can help students to simplify their real-world decision rules down to workable dimensions. SalesHire enables sales management students to see that some personal characteristic may not be useful determinants of sales performance, even though such characteristics are readily observable in applicants.

Barak, Engle, Katzir, and Fisher (1987) suggested that games help to improve participants' empathetic skills. While we have no valid and reliable objective measures to report, our experiences indicate that students who have utilized SalesHire seem to ask more important, sensitive questions during follow-up role-playing interview exercises. These students seem to be better able to anticipate job applicants' answers and are also better able to handle conflicting information.

We have experimented with a slightly more complicated version of SalesHire during a sample training session with persons about to assume their first sales management position. They were intrigued with the game and were quite active participants. Their ratings of the value of the game was considerable higher than their assessment of classroom training activities unrelated to SalesHire. Jacobs and Baum (1987) have also encountered similar acceptance of games as training tools.

The only caveat regarding SalesHire at this point is our experiences with part-time, older students. Our daytime undergraduate program is composed of traditional 18-22 year old students. They have been universally enthusiastic about SalesHire. Our evening undergraduate program is attended by students ranging from 20 to 45 years of age. The older students have been more critical of the game,

particularly about its standardized resume file. They regard standardized resumes as unrealistic. Perhaps traditional students, lacking the job-related experience of older students, actually gain more from SalesHire because they have fewer barriers to accepting the realism and implications of the game. Interestingly, Hite, Bellizzi, and Busch (1987) reached the same conclusion in their review of student attitudes about simulations.

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