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PAN (PLANNED ACTION MANAGEMENT) SIMULATION OF A DISTRICT SALES TERRITORY

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ABSTRACT

A LARGE DISTRIBUTOR OF AUTOMOTIVE AND INDUSTRIAL REPAIR PARTS DETERMINED THE NEED TO TRAIN ITS CURRENT AND PROSPECTIVE DISTRICT SALES MANAGERS IN THE SHORT AND LONG TERM BUSINESS CONSEQUENCES OF THEIR DECISION MAKING. A MICROCOMPUTER-BASED SIMULATION, PAN, WAS DEVELOPED TO FACILITATE THIS. BECAUSE OF THE SPECIFIC DEVELOPMENTAL OBJECTIVE OF THE SIMULATION, FACE VALIDITY WAS CONSIDERED CRITICAL TO ITS SUCCESS AND WAS A GUIDING FACTOR IN ITS DEVELOPMENT. THIS PAPER PROVIDES AN OVERVIEW OF THE DEVELOPMENT AND TESTING OF PAM AND THE SIMULATION ITSELF IS DESCRIBED IN SOME DETAIL. THE RESULTING SIMULATION IS OF GENERIC VALUE IN DEVELOPING SALES MANAGERS AND OF SPECIFIC VALUE WITHIN THE HOST COMPANY BECAUSE OF ITS FACE VALIDITY.

INTRODUCTION

The modern history of business simulations over the past three decades is well known and often summarized. There has been substantial growth in the number and use of simulation games during this period of time and a commensurate growth in professional organizations involved in this area (Faria, 1987). While much of the initial development of simulations was by business organizations for internal use, there has been greatly increasing use in academic settings, as well (Faria, 1987).

One of the critical issues in evaluating simulations is that of validity. Thompson and Keon (1982) in their study of the use of a management simulation to enhance managerial awareness of external environments, cite the importance of content and construct validity in assessing the effectiveness of a simulation. In a more recent article, Norris (1986) emphasizes the importance of external validity and cites the lack of agreement by researchers on the meaning of the concept as a potential reason for this. Internal validity, on the other hand, commands the bulk of published research and is generally defined in terms of teaching effectiveness for specific educational material (Norris, 1986).

In this article, Norris traces the evolution of the concept of external validity from realism to verisimilitude (i.e., one's perception of the extent of realism). The more recent trend is to study external validity by examining the relationship between success in the game relative to success in the career (Norris, 1986). (This might also be termed criterion-related validity and, depending upon the research methodology, might be further refined as predictive or concurrent validity.)

Mehrez, Reichel and Olami (1987) evaluated the Ben-Gurion University management game in terms of "face validity" or the perception of reality and "predictability" or the extent to which simulated results are consistent with reality.

One can argue that the requisite level of face validity or reality can and must be determined by the purpose of the simulation. When a diversified manufacturing and distribution company commissioned the development of a microcomputer-based simulation of a sales district, face validity was considered paramount.

The purpose of the simulation was to orient and train new or prospective district managers in one of this company's subsidiaries. The challenge was to design a simulation that would look and respond as realistically as possible to capitalize on the developmental implications of the simulation's primary artificiality - its compression of time. The object was to use the simulation as a vehicle to develop decision making skills and, in particular, to dramatize the longer term consequences of decisions.

The subsidiary in question is a leading direct-to-user distributor of parts and supplies to the maintenance and repair market in the U.S. and Canada. It sells more than 21,000 different products to over 75,000 customers, mostly in industrial, transportation and heavy equipment maintenance markets, through a network of 850 independent sales agents and 14 regional distribution centers.

The sales force is organized into 60 district sales territories with each being managed by a District Manager. This manager is responsible for carrying out the company sales plan in his/her geographical territory.

The company wanted to gain a larger share of the highly fragmented maintenance and repair market in North America. Estimates of the industrial segment of this market alone are currently \$30 billion or more a year.

The key to the company strategy is to strengthen sales agent productivity. Historically, the company has sought to increase sales by adding new sales agents. While this strategy was effective for a number of years, it ultimately resulted in disproportionately high recruiting and training costs, agent turnover and, eventually, lost sales opportunities.

Among other initiatives, the company decided to key in on the role of the District Manager, who is responsible for carrying out strategy, by developing a simulation model of a district office that would effectively allow managers to see the impact of their

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planning and decision making on their long and short term results.

OBJECTIVES

The objectives of the simulation are as follows:

1. To give District Managers practice in developing a District annual plan, which includes the following:
 - a. Establishing District priorities
 - b. Analyzing and forecasting the annual sales contribution of each agent in the district in a roster review
 - c. Identifying those agents who will go off list during the year
 - d. Detailing realistic annual sales objectives
 - e. Detailing realistic district growth plans based on personnel action
2. To give District Manager practice in executing a plan.
3. To give District Managers practice in allocating time and resources to achieve objectives.
4. To give District Managers practice in decision-making in a district environment.
5. To show District Managers the impact of their decisions in recruiting, selecting and training new agents.
6. To show District Managers the long-range impact of short-term decisions.

RESEARCH

In order to design and build a model of the District Manager job, interviews were conducted with field sales people and home office sales and marketing people. The sales people interviews were conducted with a Regional Sales Manager and three District Managers. Eight people in the home office were interviewed including sales, marketing, marketing research, and sales administration.

DESIGN OF THE MODEL

In keeping with the intent to maximize face validity, the following elements were included in the design:

1. A random sample of 150 sales agents hired in 1985 was drawn and their actual sales records for a three year period were obtained. The data were adjusted for inflation and then incorporated within the simulation model so that the agents "hired during" the simulation would produce at realistic levels.
2. Similarly, biographical data on each of the 150 agents in the sample population was collected. These would then be used to profile prospective new recruits in the simulation.
3. Test scores (based on a selection test battery in place) were incorporated into the profiles.
4. The overall company agent turnover rate was mirrored within the PAN district.

5. Thirteen functional areas of the District Manager job were identified and defined.
6. Total dollar sales in the model were identified with a breakdown by individual sales agents in the district.
7. The reports that were produced by the decisions of the participants in the simulation duplicated the actual reports that District Managers receive each month on their sales and compensation.
8. The annual planning system used in the simulation is a "bottom up" planning system that each District Manager, in reality, does at the beginning of each year for his district.
9. A series of programs was written on a microcomputer to process the decisions made by the participants in the simulation.

TESTING THE SIMULATION

The design of the model was completed and reviewed by home office sales, marketing and marketing research people. These people were the first to test the model by having them go through the simulation assuming the role of a District Manager. Some of these people had prior experience with management simulations at a University-based management training program and they were very familiar with field sales operations. On the basis of this test, a number of parameters were adjusted to "fine tune" the impact of decisions on simulated business results.

THE MODEL

The model has all of the decision-making areas in it that confront a District Manager in his real life district environment. The model is designed to give managers practice in decision-making so that they can learn the principles of management that are being required by the company under the corporate marketing strategy.

The materials used in the simulation include:

1. A video tape to introduce the model to the participants.
2. A participant manual.
3. A planning board on which to participants make their decisions.
4. Tokens that represent the District Manager's time and sales agents.
5. Planning and decision forms.

The model is designed to give the participants the experience of managing the simulated district for three years with twelve quarterly decision-making periods. The exercise has been designed to compress the three years of management experience into two days.

Participants are divided into teams with each team taking the role of a District Manager. The model is a noncompetitive one in the sense that the teams are not competing for the same market, but are competing against each other for best management results.

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The participants are given a model district to manage. They are given the sales history of the district and the sales records of each of the eighteen sales agents that they will manage.

The district had sales of \$3,003,078 the year before the managers begin the exercise. They are also told what their base salary will be and the additional compensation that they may earn in the simulation, which mirrors the actual pay plan.

MANAGEMENT FUNCTIONS

The key management functions of a District Manager were carefully defined. These definitions were extremely important to the validity of the simulation. These are the areas of management where District Managers spend their time, and thus relates to the most important resource that a manager has to allocate.

The management functions in the simulation include the following:

1. Recruiting new sales agents
2. Self-development of management.
3. General administration.
4. Personal sales of the district manager.
5. Marketing strategies.
6. Coaching and counseling sales agents.
7. Customer relations.
8. Large account sales program.
9. New accounts sales program.
10. Established agents sales program
11. Attending business meetings.
12. Phase training new sales agents.
13. Field work with sales agents.

PROCEDURE

Before participants attend the seminar in which the simulation is given, they are sent a participant manual with instructions to read it and develop a first year plan for the district that they will manage in the simulation. The forms duplicate the planning forms that they use in real life.

When the exercise begins, the Meeting Leader introduces the simulation to the class using a video tape. The video tape tells the participants what the strategies and objectives of the company are and stresses the role that the District Managers must play in carrying out corporate strategy.

The video explains the planning process and the importance of using it in setting the long and short term strategies of the district. The complete planning process is explained, which includes:

- Phase 1: Situation Analysis
- a. Where are you?
 - b. How did you get there?
- Phase 2: Setting Objectives and Developing Strategies
- a. Where do you want to go?

- b. When do you want to get there?
- Phase 3: Developing Plans and Programs
- a. How are you going to get there and when will you achieve your plan?
- Phase 4: Plan Approval and Implementation
- a. Approval from the Regional Sales Manager
 - b. Getting started
- Phase 5: Monitoring and Reviewing Results
- a. Measuring results periodically

The video also gives the participants the procedure and rules of the exercise. The participants are told that the class will be divided into teams and that each team will take the role of a District Manager. Competition is created in the exercise by telling the participants that the team with the best sales results will be declared the winner.

TEAM FACILITATOR

A facilitator is assigned to work with each team. The facilitator explains the mechanics of the exercise to the team, gives the team the materials that are required, takes the decision forms to the computer, observes the decision-making of the team but does not assist the team in making decisions, and takes the role of a Regional Sales Manager at the end of each simulated year when he reviews the performance of the team.

COMPUTER OPERATOR

A microcomputer is used to process team decisions. An operator is assigned to enter team decisions; the teams do not enter their own decisions.

The computer produces the reports that are the results of team decisions. The team facilitator brings the team decisions to the computer operator and returns the results to the team.

DISTRICT PLANNING

The background of the district is given in the participant manual, and all of the participants have read the manual and developed a plan for the first year before they come to the seminar.

When the participants are assigned to teams, they work together to develop a single district plan for the first year of the exercise that is agreeable to all members of the team.

In developing the plan, the teams must agree on district priorities for the year to come, the projected sales forecast and quotas for each sales agent, the district growth plan and all district objectives.

To help the teams develop their plan, they use the planning forms that they use in real life plus three

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forms that are required for computer input. The annual plan of each team is entered into the computer model and their performance is measured against their plan as they go through the model.

The planning forms include the following:

1. Annual Priorities (This is entered into the computer)
2. District Roster Review
3. Agent Action Plan
4. District Growth Plans
5. District Obstacles and Opportunities
6. District Annual Sales Forecast (This is entered into the computer)
7. District Objectives (This is entered into the computer)

When the annual plan has been completed, it is entered into the computer.

DECISION-MAKING

Decision-making for each year is broken down into four quarters. Teams make decisions on a quarterly basis and receive the results of their decisions for analysis and review. At the end of each year of play, the team facilitator assumes the role of a Regional Sales Manager and does an annual performance review of the results achieved by the team.

The teams have a planning board to help them in making their decisions. One side of the planning board has the functional areas where a manager can spend his time. The other side has the sales territories in the district where the manager can place his sales agents and shows him open sales territories that he may or may not want to fill with newly recruited agents.

The teams begin the decision-making process by discussing how to allocate their realistically limited time to the various management functions described on the planning board. Their decision-making involves the strategies and objectives that they want to accomplish.

Typical decisions that may be made include the following:

1. What is the present manpower level, and What are the recruiting requirements for this year?
2. What training of agents is required?
3. With which agents should we do field work?
4. Which agents require coaching and counseling?
5. Should we implement new marketing strategies?
6. Should we spend time on customer relations?
7. Will a major account sales program help us to achieve our objectives for the long or the short run?
8. What about implementing a strategy of selling new accounts?
9. Should we try to develop more business from established agents?

10. Should we spend time on personal sales of the District Manager?
11. Should we run a sales campaign this quarter?

Each team discusses its decisions and agrees on what they will be for the quarter. When final agreement is reached, the decisions are entered into the quarterly decision forms for computer input. These forms include:

1. Quarterly Time Allocations
2. Quarterly Management Decisions
3. Quarterly Agent Log

These forms are taken to the computer operator by the team facilitator. The team decisions are entered into the computer for processing and printing the reports that will be returned to the team.

TEAM RESULTS

The results of team decisions are printed in a series of reports that are identical to the reports that District Managers receive from the home office telling them about their district.

A Sales Agent Quota Analysis report is produced that shows the business written by each agent for the quarter, year-to-date sales, projected year-end sales, and year-to-date sales against quota. District sales totals are summarized at the end of this report.

A District Manager Compensation report is printed showing the compensation that the Manager has earned each quarter and year-to-date based on the decisions that the team has made.

A Quarterly District Management Report is printed showing new sales agents recruited, agents who have terminated and the District Performance Report. In addition, biographical profiles along with selection test battery results of any prospective agents who have been recruited are generated off-line but are triggered by the computer model.

The team then reviews its results and proceeds with the next period's decisions. This continues until 12 quarters have been completed.

SUMMARY

The PAM sales district simulation was designed with face validity as a top priority. Everything from the data on a potential recruit to the financial reports mimics the reality of this organization.

At the time of this writing, PAM is going into its final validity testing with a group comprised of District Managers who were not involved in the earlier research. It will then be modified as needed

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and introduced region-by-region to district managers throughout the U.S. Tentative plans also call for the ultimate inclusion of PAN in a behavioral assessment center for career counseling of successful agents with an interest in pursuing a management career path. Performance on a generic simulation has been shown to be predictive of success (Wolfe, 1986). Hopefully, PAM's level of face validity will enhance its capability as an assessment tool.

PAM is constructed in such a way as to be a generically useful simulation of district sales management and, as such, probably has broader educational value. Within the host company, however, its primary value is a function of the high degree of face validity it contains. The best test of this, perhaps, is that with the removal of identifying names and numbers, it is extremely difficult to differentiate the results of an actual district from the one which is simulated by PAM.

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