

*Amstan's Management Simulation Game*

# A New Marketing Training Tool

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Many of the *ASTD Journal* readers have perhaps heard about business gaming which is a relatively new management development technique. Basically it permits a group of management personnel to operate a hypothetical company, or some portion of it, usually in competition with other companies or "players." By means of this type of business simulation, management trainees, or experienced executives, are given the opportunity to solve some of the practical business problems facing operating management without running the risk inherent in on-the-job training. Most of the games that are played today deal with *manufacturing* operations in which several teams representing miniature companies compete with one another for a common market. In these general purpose games the players make a few decisions regarding production, marketing, research and development, etc. We at Amstan took part in one of these general

purpose games to see what a simulation game could do for us. Since Amstan is a *marketing* organization, we wanted a game specifically tailored to our needs. We saw that any one of our operations could be simulated and began therefore thinking about a game of our own and what it could do for us. We had these primary purposes for a game in mind:

1. As part of our overall training program, we needed a new approach for training managerial candidates—some way of giving potential managers experience in branch management without exposing the division and the individual to the usual risks attached to inexperienced managers.
2. A type of refresher training for our current managers.
3. As part of the appraisal of current managers, an opportunity for top management to observe the decision making processes of individuals in action.

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Author's Note: I wish to thank the various Amstan executives and management staff who participated and contributed their time to this research project. Our Management Game would not have been possible without the splendid cooperation and assistance received from the University of Pittsburgh in providing us with the use of their computer, programmer and other facilities. Without their help and direction this management tool would not have been successfully completed.

4. An approach to broaden our division staff in recognizing the functions of our branches.
5. A way to orient our sources of supply to the problems and functions of Amstan, which would be typical of their distributors.
6. A method by which management could introduce new marketing techniques and concepts (Account Census).
7. A means by which strategies and tactics in selected marketing territories could be planned and evaluated.

To achieve these purposes, we needed to develop a game which would be essentially a *marketing* simulation—involving as many facets of our operation as possible. It had to be built around the basic unit of our business—the individual accounts who purchase the product we distribute. As is usual in a major project such as this, our top management gave its support and backing to the team which was assigned the task of creating a game for Amstan. This team took apart our operation and saw what made it work—they analyzed our customers to see how they bought and why. All of this was worked into our game. It took them about a year to create the Amstan game, since this project was combined with their normal activities. We estimate that about four months of full-time teamwork would produce a game as complex as ours.

Our game is presently being used in training managerial candidates, in re-training current managers and in the appraisal of current managers. The game was taken out into the field where every one of our line management participated in it. Games are flexible—they can be

used by groups in a central location; they can be used in conjunction with meetings; they can be used simultaneously by many people at remote locations permitting us to involve many people in them at very low costs. Since our line management in the field has been oriented to the game, these branch managers can utilize it with their own people at their specific locations for training purposes.

We feel the time and effort that were devoted to the creation of our game are more than justified by our present and future uses of it. Our game is a basic framework which can be used for many purposes.

### ***Amstan's Simulation and Game Development***

A description of the work of Amstan thus far might help clarify the dimensions and problems of simulation and gaming. Since Amstan is a system of 63 wholesale distributors, we desired a game which would simulate a typical or smaller wholesale operation. This is a unique application as are most management simulations and games, but the techniques are somewhat general. Also in our first efforts, we have attempted to simulate accurately almost every aspect we can, whereas we now know that approximations will serve our purpose equally well for future games.

For discussion, it is convenient to briefly note the four parts of Amstan's game: the *market model*, the *sales management decision function*, the *award of business process*, and the *administrative and measurement function*.

#### ***Market Model***

The market model was devised by creating several hundred trade accounts

which is typical of our smaller marketing territories. Since our game initially was designed to cover a twelve-month period, we developed purchase needs of three product lines for each account for each of the twelve months, recognizing of course seasonal factors. Some of these accounts served the residential market while others served the non-residential and industrial markets. Some of these accounts were primarily plumbing contractors while others were essentially heating contractors, etc. Some were obviously large accounts, others middle-sized, while others were very small. The stratification was based on actual field investigation of several of our marketing territories. Thus we feel certain that our stratification as to characteristics is proportional and real.

A variety of buying characteristics was then added to the market model in true life proportion, and in this regard, since we recognize the shifting purchasing attitudes of customers, we provided a degree of flexibility or randomness in the buying attitudes for specific accounts for given months. With the aid of our credit organization, we know the risks we face as to bad debts and in fact several of the accounts will become bankrupt during the course of a year's play, proportional to the happening in real life. Since in real life we constantly receive a flow of information regarding the activities of an account, so in our model we provided for qualitative information output. Much information occurs in advance of actual happenings. For example, several months prior to bankruptcy, certain qualitative occurrences are revealed, which our managers, having had formal credit training, would recognize as warning signals.

Advance information on negotiated jobs is also provided through this qualitative outlet, which really reflects the type of information salesmen pick up in their day-to-day contacts. Time does not permit a complete listing of the many elements common to our markets which have been built into this market model, but the foregoing does provide a cross section of what constitutes a model of our market. As you can imagine, this has required extensive research in order to adhere as closely as possible to real life conditions. This entire model with all component complexities is possible only because of the tremendous memory capacity available to us in computers, and in this case, an IBM Tape 650.

### ***Sales Management Decision***

With a market model created, we then set about to create the number of distributors who would normally operate in a market of this size. Each distributor is provided with salesmen, customer lists and normal distributor financial summaries. Turning to an individual distributor for illustration, the manager (who is the individual Amstan is presently interested in training) starts business with a given number of salesmen who possess varying capabilities as to their effectiveness in the sale of various product lines to various classes and sizes of accounts.

Digressing for a moment, our actual real life problem is allocating a relatively fixed amount of sales effort to a rather large number of accounts with the objective of maximizing our profitability while still maintaining reasonable market position. As he would in a real life the manager decides which accounts each salesman will cover and with what

emphasis. The manager next establishes a uniform pricing policy for products for the month which of course must be equally applicable to all customers, with the exception of negotiated pricing policy which is being handled by a separate bidding simulation. The operation described is duplicated by each distributor in the market, although each has a different assortment of customers and each is not aware of the total number of accounts or size of market. Naturally, we hope the players discover the market dimensions at an early stage in order to develop by intent the most profitable customer, product and market mix. The distribution of salesmen's effort plus that of the managers is interwoven to achieve many real life causes and effects for the entire operation.

### **Award of Business**

Thus with the creation of a market model and the simulation of the sales management decision functions of typical distributors, we then move to the toughest problem—that of exploring the process involved in the awarding of business by customers to the various competitors vying for that business. “Why and how does a customer go about awarding the business to a variety of competitors” was the question we had to resolve. We have an approximate solution.

### **Administration and Measurement**

The last part of the Amstan game is the administrative and measurement function. Naturally, there are many factors involved in a wholesale operation—quantity and quality of inventory, physical plant, showroom, city counter activ-

ity, office personnel, etc., of significance in a competitive sense. These of course can be simulated. Since we desire the players to receive exactly the same type of accounting reports they will receive in real life, we had to devise ways of developing each accounting factor which, for example, appears in the profit and loss statement. We then developed the physical decisions by which a player-manager could effect these specific accounting measurements. For example, to lower expense, a player may elect to reduce warehouse personnel and make a physical decision discharging one warehouseman. But certain penalties are built into the game to increase overtime warehouse costs automatically, should warehouse personnel fall below those levels necessary for the going operation.

These rather brief comments of Amstan's game may give you some idea of how we approached our simulation problems. Our computer programmers at the Data Processing Center, University of Pittsburgh have taken the game as we developed it and have designed it into an IBM Tape 650. As the programmers sense opportunities or restrictions, we are making the necessary ‘tuning’ adjustments as required.

Having reviewed simulation and gaming, the benefits to management, the contribution of research, a brief example of our game as well as the practical considerations, it would seem pertinent in conclusion to point out the perspective of this whole subject. Certainly the entire subject is but one more attempt to understand more clearly the very complex behavior of marketing. Technological development of the computer, combined with its use in gaming and simulation makes it possible.