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The MARS Sales Management Simulation: 10+ Years Later

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ABSTRACT

The authors discuss the MARS Sales Management Simulation (MARS) based on over 10 years of experience using the simulation in a sales management course. Over the years, the authors have tried a variety of ways of incorporating the MARS game into the sales management course and have written this paper to share their insights. This paper presents an overview of the MARS Sales Management Simulation, how to incorporate MARS into a sales management course, additional sales management assignments that relate to information from the MARS Simulation, advantages of using the simulation, disadvantages of using the simulation, some possible guidelines for running the simulation, and suggested guidelines for the additional assignments.

OVERVIEW

The MARS sales management simulation (MARS) is designed to give students a hands-on learning experience. Student district management teams compete by managing and motivating five salespeople. The game is set-up so that each manager or management team manages the exact same five sales reps: Bob, Emily, Kevin Jen, and Katie. Therefore, when participants compete against each other, performance depends on management decisions that affect sales rep and customer satisfaction, not on having better sales reps to begin the game. The more the sales reps and customers are satisfied with management decisions, the better the performance of the company. Each management team starts the simulation game at the exact same starting point and with the exact same information. The sales reps are selling electronic computer games and the participants in the game (sales management students) are the newly appointed district managers to the 5 sales reps. The student management teams make quarterly decisions for a specified number of simulated years, with the number of years to be determined by the professor. Students make decisions on such topics as sales supervision, pay, sales quotas, contests, recognition, and account management. MARS is hosted on-line; therefore, students can enter decisions from any location that has internet access. Once decisions are entered, the professor runs the simulation, and students receive instantaneous results. The professor determines the length of the simulation, and the number of management teams/participants.

PREPARATION FOR THE MARS SALES MANAGEMENT SIMULATION

There are two parts to preparing for the implementation of the simulation. The professor needs to do a variety of tasks to get the simulation set-up, and the students need to do several tasks to

prepare for the first quarter simulation decision. The professor might want to allow a week or two for the preparation time period.

Professor Tasks

The first step is for the professor to sign-up for MARS by creating an account with a USERID (e-mail address) and a password. Once the professor is registered, there are several useful tools that can be used to prepare to introduce MARS to the students. The simulation includes an instructor's manual, a student manual, multiple choice test questions related to the student manual, power point slides related to the simulation game, and three videos that students can view which are related to the simulation. The videos are 1) "An Introduction to Simulations" which explains the basic nature of a simulation game to students, 2) "The Mars Sales Management Simulation" which provides an overview of how the simulation is used in class, and 3) "The George Bassmaster Welcome Video" which is a video showing the regional manager, George Bassmaster, welcoming the students as the new district manager. While the videos are sometimes humorous and good basic tools for introducing the simulation to the class, the key supplement is the instructor's manual. While it is recommended that the professors review all these supplements before introducing the simulation to the class, at a minimum the professor needs to read the instructor's manual completely. Professors only need to go through the materials in detail once when first using the simulation. After they have used the simulation once, most professors will only have to use the materials to review a few key pieces of information in following semesters. Detailed reviews of the material will no longer be necessary. Professors create a simulation by entering a simulation name and other corresponding information on the MARS sight. Please note, the number of simulations to be created will be discussed later in this paper.

It is recommended that the professor also prepare a test or quiz to be given once the students complete reading the student manual. It has been our experience that unless the students are significantly encouraged to read the manual, most students will not read it. Before using a quiz to measure students' knowledge of the student manual, the professor constantly emphasized the importance of reading the manual so that students would be prepared to help their group members make a good first quarter decision and, therefore, help the group get off to a good start in the MARS game. This encouragement did not get the desired results. The professor, by talking with students about their early year one decisions, discovered that most students did not read the manual.

Once the quiz or test has been administered, students should be broken into management teams. Each created simulation can contain anywhere from 2 to 10 teams/companies competing against each other. The MARS instructor's manual recommends between 4 and 7 teams per simulation created. The authors recommend 4 or 5 teams per created simulation, ideally; however, we have used seven teams once or twice over the years. The professor can choose how many students will make up each management team. Since the professor can set-up as many simulations as he/she wishes, the simulation can be a useful learning tool for any class size. Management teams can consist of any number of students; therefore, a management team could be anywhere from one student to a large number of students. The authors have found that teams larger than four or five

students are not really recommended due to the potential problem of not having all students participate in the game. The professor could let the students decide on the number of participants for each team (again recommending a 5-student limit per team); therefore, if a student wanted to manage his/ her own team because of potential problems in meeting with other group members or simply because he/she would prefer to work on the project alone, this is possible with the MARS simulation game. Since the simulation access cost is \$100 per team, a student doing the simulation alone would be responsible for the entire fee. With a 4-student group, each student only needs to pay a \$25 fee. The professor also would need to keep in mind that any student working alone would not be learning about working as a team in small groups. For best participation, the authors recommend team sizes of 3 or 4 students. Once teams are formed, it is recommended that the professor spend part or all of a class period introducing the simulation by showing key information to help students understand how to enter and submit the first quarter decisions.

Student Tasks

Once the professor has registered for the simulation, he/she should divide students into groups, present the registration process to the students, assign the student groups with a registration deadline, assign students the task of reading the student manual, and inform them of the test date over the material in the student manual. The students register their teams for the simulation by creating a team USERID, a team password, a company name, and registering all group members' names into the on-line registration process. Once registered, the students have access to the same material as the professor, except for the instructor's manual. The students should be encouraged to review all materials available on the website before entering the first quarter decision. The student manual is well-written and contains all the information students need to make their first quarterly decision and should be used throughout the simulation by the students to help refresh their memory on key issues related to decision-making for the simulation game. The student manual has numerous helpful/strategic tips for the students who really read through it carefully. Careful reading of the student manual is really a key to management teams getting off to a good start in the simulation. The management teams that don't take the time to carefully read the manual will have a difficult time being competitive in the simulation, particularly early in the game.

ADMINISTRATION OF THE SIMULATION

The professors can run as many years of the simulation as they see fit. Since students make quarterly decisions, they are making 4 decisions per year of the MARS game. The authors suggest running the simulation for at least three years because it seems that less than a three-year period does not really give the students adequate time to analyze and assess how to make good decisions on all the decision input variables of the game. The authors also recommend not running the simulation for more than five years due to the fact that it is difficult to work more years into a semester and still adequately cover the course material. Plus, it has been found that the simulation game may start to get a bit too repetitive for some students if it is run much over the five year suggested period. Ideally, the authors suggest that professors use a 4-year simulation period for a 15-week semester course. The authors present an example of a possible

schedule for a 4-year simulation run in Appendix A. Before beginning the first quarter decision, the authors recommend to give the students a couple of practice decisions. This gives students the opportunity to see how to enter decisions and how the simulation basically works. Once the practice periods are done, the professor can reset the simulation to begin again at Year 1 Quarter 1 of the game. An advantage to the simulation game is that the game can be started before the professor covers many of the sales management topics included in the game, such as setting quotas, compensation, supervision, motivation, etc. The reason the game can be started before coverage of these sales management topics is due to the comprehensive student manual included in the simulation.

As shown by the schedule in Appendix A, the authors recommend having the students make 2 decisions per week (2 quarters). Therefore, after two weeks of the simulation, the students will have completed 1 year. In order to make sure all students in each group are contributing to the decisions, it is recommended that professors conduct group evaluations on a regular basis throughout the simulation. As shown on the schedule in Appendix A, the authors recommend having the students complete group evaluations at the end of each year of the simulation, i.e. after every 2 weeks. It is recommended that professors let the students work without any consultation with the professors over the first year of decisions. Once the simulation enters the second year, it is recommended that professors meet with the lower performing groups to see if there are questions and to inquire into the group's decision-making processes. Based on information from the student group on how they are making decisions, the professor can then ask some thought provoking questions and/or hint that the student group might want to try a different approach to making certain decisions. By year 3, it is recommended that the professor meets with each group throughout the year to ask questions about their decision-making processes. If the professor notices that some groups are not making decisions properly, the professors can suggest a need to try to look at certain analysis methods in a different way. At no point during the simulation should the professor tell a student or a student group how to make any of the decisions for the simulation.

ADDITIONAL ASSIGNMENTS

Another project the authors have found to be worthwhile in conjunction with the simulation, is to have each management team prepare a final report based on the simulation game. These reports help develop report writing skills for the students, check their knowledge of the simulation game, help develop their word processing skills, help teach or reinforce skills on how to prepare tables and charts for reports, as well as how to use these tables and charts to show and explain company performance. These tasks are often required of sales managers and will help better prepare students for the real world. One suggestion for the annual reports, assuming you have the students work in groups, would be to have each individual on the management team prepare one of the annual summaries for the final report. Therefore, if you had a 4-student management team, each student would be responsible to prepare an annual summary for a four year run of the simulation. Having each student prepare an annual summary is another way for the professor to measure each student's knowledge of the simulation and the quality of work for each student on the management team. These reports help a professor know who really knows what is going on in the simulation and who doesn't. Therefore, the reports help when assigning individual grades

to each member of the group (along with the previously discussed test and group evaluations). However, if preferred, the professor could just have each management team turn in final reports where all sections were work on in a group effort and assess contributions with group evaluations.

A final report following the end of the simulation is a good project to help measure the management team's decision-making knowledge. A suggested format for a final report (used by the authors) is to have students prepare annual summaries for each year of the simulation for their team as well as have students prepare an overall summary of the 4 years of the simulation. The overall summary could include tables showing sales volume, market share, and profitability for the entire 4 years of the simulation. The final report could also include a section where the students are required to discuss how they made decisions throughout the entire simulation for each of the decision criteria variables, i.e., supervision, account management, quota setting, etc. Along with the quarterly decision submission sheets that the professor can access for each team from the simulation, the professor can use this section of the report to help assess the students' knowledge of how to make each decision. In other words, the professor will be able to see whether or not the students determined the best way to make decisions for each of the decision variables in the game. The authors have always assigned this as a group report to be submitted by the end of the semester; however, if class size was small enough to make grading feasible, the professor could have each individual student prepare a final report to assess each individual's knowledge of the game. A possible format for a final report for the simulation game is presented in Appendix B.

STUDENTS' ASSESSMENT OF THE MARS SALES MANAGEMENT SIMULATION

Students have found the game to be a very competitive, hands-on learning tool. Most students enjoy this type of learning environment compared to the normal lecture/exams and/or case analysis process used in most classes. The competitive nature of the game makes it a fun learning process for most, but it can also be a frustrating process for those who cannot figure out how to make good decisions in the game. Professors can use the decision topics and situations presented in the simulation to help support their explanations of how these management strategies are applied in real life. Students have commented that when examples from the simulation are combined with information from the lectures, it makes it easier to understand the lecture material. Some students will complain that it is frustrating that they can't hire and fire sales reps, that they can't actually communicate with the sales reps to get feedback if a rep is performing poorly, that they shouldn't run out of training, and that the simulation is non-realistic. These concerns are not really concerns given the nature of the simulation. The professor simply needs to explain to students that simulations are not exact replicas of real-life. It is designed to teach them certain aspects of sales management that they will be able to use later on in actual sales management positions. Students need to realize that they do not need to communicate with the reps or hire and fire reps because the solutions to them doing better in the simulation are available through their analysis of information in the game itself. The student manual even indicates that the simulation is not designed to exactly emulate real-life. The simulation is actually designed to help develop problem-solving skills. In fact, it is stated in the student manual that some decisions that students will make are actually "counter-intuitive" to how the

decision might be made in real-life. Students will learn how to use quarterly results data to make decisions for upcoming quarters by analyzing data from previous quarters.

Students also have complained that it is hard to find time to get group members together outside of class, not everyone in the group contributes equally, and group members don't listen to suggestions for improvement. These comments are typical when professors run any type of group project and can be handled however professors typically handle those situations. Having group members evaluate each other throughout the simulation can help reduce group conflicts. The authors actually have students evaluate each other at the end of each year of the simulation, i.e., every four quarters. Any potential problems can be addressed by the professor with the group as soon as the problem is uncovered; therefore, the problem can be corrected during the course of the simulation project. In upper level classes, it is not uncommon for students to work in small groups. Determining how to interact and be productive in small group situations is also part of the learning process for students.

PROFESSORS' ASSESSMENT OF THE MARS SALES MANAGEMENT SIMULATION

The authors feel that the Mars Sales Management Simulation is an excellent learning tool to incorporate into a sales management course. It makes the course more enjoyable for most students, and it can be useful in helping to teaching numerous sales management concepts and tasks. The authors feel that the main benefit to the simulation is that it helps students develop analytical skills and problem solving skills. Students must learn to study market reports, figure out what information is useful, and determine how to combine information from a variety of reports to make good decisions in a competitive marketplace. Students learn a method for setting quotas and must crunch the numbers themselves to set the quotas. The simulation helps to teach students the importance of monitoring competition in a competitive marketplace and using market and company information to make educated, competitive decisions. Since the simulation is on-line, the amount of work by the professor to run and supervise the simulation is very minimal. Also, the professor can use the simulation to help teach other sales management tasks not addressed in the simulation such as preparing reports for upper management (as shown in Appendix B). Professors can use the simulation to help reinforce topics taught during the semester and can also give helpful hints for decision-making in the simulation during class lectures.

One problem the authors have encountered is that some management teams never seem to figure out how to solve their team's problems. For example, management teams should be able to figure out the best prize to use for contests fairly early in the simulation game (at least within the first couple of years); however, there are some teams that end up not having it figured out even by the end of the game. To ensure students are learning analytical skills and problem solving skills, it might be necessary to work with some groups and ask questions of the groups to get them thinking about how to solve the problems of their district. The professor can ask thought provoking questions to help steer groups in the right direction without actually telling them how to make the decisions. However, the problem is that providing that direction can be unfair to other teams that have already figured out what to do. Another problem encountered is that students tend to talk to other students that have already taken the class. Students could share

strategic information with other students which would enable some management teams to get off to better starts in the simulation compared to some other teams. Overall though, the MARS Sales Management Simulation is a useful learning tool to incorporate in a sales management course and is recommended by the authors.

APPENDIX A

An Example Simulation Schedule (15-week Fall Semester)

The following is a calendar for the sales management simulation group project. Failure to meet the deadlines for the project will result in a reduction of the group's final grade.

9/21	W	11:00 p.m. Year 1, 1 st quarter decision submitted
9/25	S	11:00 p.m. Year 1, 2 nd quarter decision submitted
9/28	W	11:00 p.m. Year 1, 3 rd quarter decision submitted
10/2	S	11:00 p.m. Year 1, 4 th quarter decision submitted
Group Evaluation for Year 1 due next class meeting		
10/5	W	11:00 p.m. Year 2, 1 st quarter decision submitted
10/7	S	5:00 p.m. Year 2, 2 nd quarter decision submitted
10/12	W	11:00 p.m. Year 2, 3 rd quarter decision submitted
10/16	S	11:00 p.m. Year 2, 4 th quarter decision submitted
Group Evaluation for Year 2 due next class meeting		
10/26	W	11:00 p.m. Year 3, 1 st quarter decision submitted
10/30	S	11:00 p.m. Year 3, 2 nd quarter decision submitted
11/2	W	11:00 p.m. Year 3, 3 rd quarter decision submitted
11/6	S	11:00 p.m. Year 3, 4 th quarter decision submitted
Group Evaluation for Year 3 due next class meeting		
11/9	W	11:00 p.m. Year 4, 1 st quarter decision submitted
11/13	S	11:00 p.m. Year 4, 2 nd quarter decision submitted
11/16	W	11:00 p.m. Year 4, 3 rd quarter decision submitted
11/20	S	11:00 p.m. Year 4, 4 th quarter decision submitted (Final Decision)
Group Evaluation for Year 4 and for the Overall Simulation due next class meeting		

Group evaluations are due on the due dates no later than the beginning of class. Any evaluations submitted after the beginning of class on the due dates will be considered late. You need to use the correct page when submitting your group evaluations and the forms must include both a grade score as well as written feedback **for each group member**. Each group evaluation form should be completed before entering the classroom on the day it is due. Late evaluations will be accepted as long as they are submitted **before** the day the next evaluation is due. Late evaluations will result in a grade reduction. Incomplete or incorrect evaluations will also result in a grade reduction. The group evaluations are completely confidential and will be seen only by the professor. No other students will see these evaluations.

APPENDIX B

Possible Final Report Guidelines for the MARS Simulation

The final report is a group project. The report will be graded on the quality of the report (spelling and grammar) and the quality of the information contained in the report. The report should look professional and flow together as if written by one person. Spelling and/or grammar errors will have a significant impact on your final report grade; therefore, make sure you prepare and edit your report carefully. The report should be double-spaced, left justified, 1/2 inch margins, and 12-point font. The report should have a table of contents and the pages should be numbered beginning with the first page following the table of contents (page 1). The front page of the report should include your team name, each group member's name, a signature line next to each member's name with each group member's signature approving the content and quality of the final report, and the date the report is to be submitted. **Please note:** Your signature indicates you have read the entire report and approve the contents of the entire report. There is no page limit for the final report; however, your report should thoroughly cover the information requested for the outline below. Your report is to be submitted in a 1/2 inch 3-ring binder. Plastic insert sheets are to be used for placing the report pages in the binder. Prepare the report as if you are the district management team reporting to your regional manager. Failure to follow these guidelines will result in a reduction of your grade for the report. Your report should include the following sections in this order:

Front Cover

Table of Contents

I. Year 1 Summary

Introduction

Required Tables

Company Performance

Performance Analysis

II. Year 2 Summary (same format as year 1 above)

III. Year 3 Summary (same format as year 1 above)

IV. Year 4 Summary (same format as year 1 above)

V. Overall Company Summary

Introduction

Required Tables

Company Performance

APPENDIX B (Continued)

VI. Decision-Making Processes (Break this section into the following sub-sections)

Introduction, Salary, Commission, Bonus, Quotas, ABC Accounts, Training, Supervision, Recognition, Contests, Research Reports

VII. Management Summary

The following guidelines include the type of information to be included in each of the above sections/sub-sections of your report.

Introduction – This should be an introduction to what you are going to present in each section.

Required Tables – These are tables that must be included in the report. These tables are discussed in more detail later in these guidelines.

Company performance - This is a discussion of the data presented in the required tables for the report. Where did your company rank in sales volume, market share, and profitability compared to the other companies in the region? Do not break the discussion into a quarter by quarter discussion. It should be based on the yearly performance of your company.

Performance Analysis - **This discussion should focus on the sales rep and customer satisfaction reports available in the simulation.** These reports indicate the satisfaction of your reps and customers compared to those of other companies. Additional tables showing the satisfaction rankings of your reps and your customers must be included in this section when appropriate. Your discussion should include whether each area had a positive or negative impact on company performance **for the year** based on the ranks in your tables. Your discussion should also include any trends in the data from your satisfaction tables.

Overall Company Summary – This is information regarding the overall performance of your company for the entire 4 years of the simulation. Do not break the discussion into a year by year discussion. It should be based on the overall performance of your company for the entire 4-year period. Where did your company rank in sales volume, market share, and profitability compared to the other companies in the region? An example of the required tables for this section are presented later in these guidelines.

Decision-Making Processes - This section is a discussion of your final decision-making process used for each of the decision areas of the game. You should give specific examples to help explain the decision-making process you finally settled on for each of the decision items.

Management Summary - This should be your overall assessment of the sales management simulation as a learning tool. Each manager should write his/her own summary.

APPENDIX B (Continued)

Example of the yearly tables required for your final report

Table 1.1
Sales Volume – Year 1

Company Name	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
Company 1					
Company 2					
Company 3					
Etc.					

You should have tables like the one above for sales volume, market share, and profitability (in that order) for each of the 4 years of the simulation.

The following is an example of the types of tables that should be included in your Performance Analysis sections of the final report when showing satisfaction ranks for the decision areas:

Table ??
Ranks for Satisfaction with Accuracy of Quota

Rep's Name	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Bob				
Emily				
Kevin				
Jen				
Katie				

The following is an example of one of the tables you should have to show the cumulative results for your company over the simulation:

Table 5.1
Final Total Sales Volume

Company Name	Year 1	Year 2	Year 3	Year 4	Total
Company 1					
Company 2					
Company 3					
Etc.					

*You should have a table like the one above for sales volume, market share, and profitability (in that order).

APPENDIX B (Continued)

For all tables in your report:

*List the companies in the same order that they are listed in the simulation reports when preparing your tables. Do something to make your company's name and data stand out from the other companies in your tables. Do NOT cut and paste tables from the simulation.

* All tables in the report should be numbered and labeled for easy reference. Each table should fit on the same page it was started, i.e., tables should not be split across two pages. If an entire table will not fit on a page, move the entire table to the following page.

*Except for the required tables, all other tables should be inserted into the report either directly before or after where you first refer to the table in your discussion. Except for the required tables sections of your report, do not begin a section of your report with a table.

ABOUT THE AUTHORS

Joseph D. Chapman is a sales professor in the Marketing Department at Ball State University. He earned his doctorate from Virginia Polytechnic and State University (Virginia Tech). He joined the Ball State faculty in 1987. Dr. Chapman's teaching focuses on professional selling, sales management, and marketing principles, and he has over 30 years of teaching and consulting experience. Before obtaining his doctorate, he was a computer sales representative (Burroughs Corporation) and a pharmaceutical sales representative (Burroughs Wellcome, Inc.). Dr. Chapman was instrumental in the establishment and growth of Ball State's nationally recognized sales program. Dr. Chapman has published research in several well-known business journals including the *Journal of Personal Selling and Sales Management*, the *Journal of Marketing Theory and Practice*, the *Review of Business*, the *Marketing and Management Journal*, and the *Marketing Education Review*. He has also published and presented numerous papers at national and regional marketing, business, and sales conferences.

Russell Wahlers is a professor of marketing at Ball State University. He joined Ball State University in 1989. He received his DBA degree from Kent State University. Prior to joining the Ball State faculty, Dr. Wahlers taught at the University of Notre Dame, John Carroll University, and Kent State University. Dr. Wahlers' industry experience includes assignments at The BFGoodrich Engineered Systems Company in Market Research, Business Planning, and Corporate Purchasing. His teaching interests are in the areas of Consumer Behavior and Marketing Simulation and his research interests are primarily in the consumer information processing area. Dr. Wahlers has had articles published in the *Journal of Marketing Theory and Practice*, *Advances in Consumer Research*, *International Journal of Retailing and Distribution Management*, *Journal of Leisure Research*, *Journal of Travel Research*, *Journal of Professional Services Marketing*, *Review of Business*, and *Marketing Intelligence and Planning*. He has also published and presented numerous papers at national and regional marketing and business conferences.