

# Developments In Business Simulation & Experiential Exercises, Volume 20, 1993

## USING MARSGAP (A MARKETING SIMULATION GAME ANALYSIS PROGRAM)

### WITH LAPTOP: A MARKETING SIMULATION

T. Rick Whiteley, Lawrence Technological University

#### ABSTRACT

MARSGAP is a spreadsheet-based software program designed as a learning/analysis aid for the user of the LAPTOP marketing simulation game. The program includes (1) a 'what if' income statement calculation component, (2) a 'what if cash flow statement calculation component, (3) a breakeven analysis component, (4) a general graphics component, and (5) a market share plot component. The demonstration will be of interest to users of LAPTOP and users of any simulation game who are seeking ways to increase the involvement and the quality of the decisions and reports of simulation-game participants.

#### INTRODUCTION

MARSGAP was developed to provide the user of the LAPTOP marketing simulation game by Faria and Dickinson (1987) with the opportunity to carry out additional analysis of the decisions and the data acquired during the play of the game. While the program is based on Lotus 1-2-3 (version 2.01), no detailed knowledge of Lotus is required on the part of the user. By just entering raw data and using a limited number of pre-defined (macro) commands, the user is able to carry out some very detailed analysis for the game. [The program has also been modified to be usable with Quattro Pro and any other spreadsheet which is compatible with Lotus 1-2-3 macros.]

Before submitting a decision, the game participant can prepare income and cash flow statements to determine the soundness of the decision, assuming the predicted level of demand for the company actually occurs. A breakeven analysis, for an infinite number of prices, can also be carried out, given the nature of the decisions the student is considering. In fact, the program automatically calculates the breakeven point in units for 13 different prices (incremented by \$25) for each price entered.

Data collected during the game can be entered so that trends can be monitored over time. Data for each company in the game available from the LAPTOP research reports can be entered for each quarter of the game. Once such data is entered, the user enters one macro command to automatically prepare up to 49 different graphs. The structure of each graph is pre-defined by the program. Only the raw data entry is required for the final preparation.

The user of MARSGAP is also able to create up to 36 graphs, which plot market share by various decision values. Again, the user only needs to enter the raw data collected during the game. The structure of each graph is pre-defined. By analyzing the appropriate graphs, the user may be able to determine the best decision inputs for the game.

If the game participant is required to prepare a final game report based on the LAPTOP simulation, any of the graphs produced by MARSGAP can be printed easily by following the print commands for Lotus 1-2-3 or any other usable spreadsheet program. By entering one macro command, MARSGAP will automatically save a \*.pic file for each graph to be printed.

The MARSGAP program has been used in first year and second year M.B.A. marketing courses. Use of the program has clearly increased (1) the involvement of the participants with the simulation game, (2) the quality of the data analyses, (3) the quality of the decisions, and (4) the quality of the game reports. In fact, by using the program, the participants can easily avoid making a decision, which results in a loss even when all available units are sold. This type of decision was a common problem before MARSGAP was available.

*Notes. MARSGAP was developed by T. R. Whiteley; College of Management, Lawrence Technological University, Southfield, MI, 48075-1058; Copyrighted 1992 LAPTOP: A Marketing Simulation was developed by A. J. Faria and John R. Dickinson; Business Publications, Inc., 1987.*

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#### DETAILS OF THE MARSGAP PROGRAM

As indicated, MARSGAP comprises five main components: (1) a 'what if' income statement calculation component, (2) a 'what if cash flow statement calculation component, (3) a breakeven analysis component, (4) a general graphics component, and (5) a market share plot component. The first three components can be found in a separate file entitled 'MARSGAP1.WK1.' The 'MARSGAP2.WK1' file contains the general graphics component. And the 'MARSGAP3.WK1' file contains the market share plot component.

##### Income Statement Component

The 'what if' income statement calculation component of the program will allow the user to determine the impact of various sets of decision variable values on before-tax operating income (i.e., before tax and before investment income). The program only manipulates the input values; it does not search for the best decision. The nature of the environment and the competitive forces are not taken into account.

##### Cash Flow Statement Component

The cash flow statement calculation accompanies the income statement calculation. Based on the 'what if' set of decision variable values entered, the cash position of a player's firm will be determined. All income sources and tax considerations are included in the cash flow statement calculation.

##### Breakeven Analysis Component

The breakeven analysis component of the program allows the user to determine the number of units that must be sold, given a specified price and a specified cost structure, such that total revenue will equal total cost. All costs except the following are considered to be fixed for the decision period under consideration, once set co-operative advertising expense, sales force sales commission expense, and unit production cost. Price, of course, is also a variable item. The results of the breakeven analyses are shown on each relevant screen.

##### General Graphics Component

The general graphics component of the program will allow the user to monitor the competitive environment throughout the game. Information appearing on the game printouts, including marketing research information, can be entered into the program so that graphical trends can be portrayed and then analyzed by the participant. If game reports are required as part of the course, printouts of the graphs prepared can be obtained from the program. Graphs 1 to 49 are included in this program component.

##### Market Share Plots Component

The market share plot component of the program will allow the user to examine and, hopefully, determine the relationships between market share and various decision variables. Information appearing on the game printouts, including marketing research information, can be entered into the program so that graphical trends can be portrayed and then analyzed. If game reports are required as part of the course, printouts of the graphs prepared can be obtained from the program. Graphs 50 to 85 are included in this program component.