CHECKING FINANCIAL BALANCE OF TARGET BRAND PORTFOLIO WITH THE STRATEGIC MARKET PLAN CASH FLOW PACKAGE

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ABSTRACT

The Online Strategic Market Plan (SMP) Cash Flow Package is used to assess the viability of a SMP. Based on a strategic analysis of the brand portfolio, participants develop a target brand portfolio with associated strategies for their nine strategic business units (SBUs). They enter the estimated annual sources and uses of cash associated with these strategies. The annual sources and uses of cash for the prior three years of operation are computed from quarterly sources and uses of cash accounts extracted from the simulation results and serve as benchmarks. Based on their preview of the projected cash surplus or deficit, the SMP can be adjusted to optimize the performance of the overall brand portfolio while maintaining cash in balance.

INTRODUCTION

The Strategic Market Plan (SMP) Cash Flow Package is a decision support system that enables competing participant teams in the marketing simulation COMPETE (Faria 2006) to assess the viability of the proposed strategic market plan for their brand portfolio consisting of nine strategic business units (SBUs). SBUs are specific product offerings in specific regions that have specific target markets with specific needs and purchase motivations, a specific set of strategies, facing a specific set of competitors with specific competing strategies.

Prior to the development of this package, relevant data from the dos-text based simulation results were first identified by the user and then manually entered into the Lotus 1-2-3 based COMPETE Analysis Programs (CAP) disk cash flow spreadsheet prior to analysis. This procedure occasionally resulted in use of incorrect data and/or data entry error.

The new Excel-based SBU Analysis Package automatically extracts relevant data via external links from the Excel-version of the COMPETE simulation results. The Excel-version of the simulation results are generated by the instructor/administrator from the original dos-text based COMPETE simulation results. Later, the Excel-version of the simulation results are uploaded to the COMPETE Online Decision Entry System (CODES) repository for subsequent access by competing participant teams. Only relevant data on the sources and uses of cash that are needed to determine whether a cash surplus or deficit is projected are extracted from the simulation results. This decision support package saves substantial time needed to identify and enter the relevant data and reduces the potential for data entry error.

DECISION SUPPORT SYSTEMS

Several scholars have commented on the value of including decision support software/systems in computer simulations (Keys and Biggs 1990; Teach 1990; Gold and Pray 1990, Wolfe and Gregg 1989). In addition, the literature is replete with references to the use and impact of decision support systems with computer simulations (Affisco and Chanin 1989, 1990; Burns and Bush 1991; Cannon et al. 1993; Fritzsche et al. 1987; Grove et al. 1986; Halpin 2006; Honaiser and Sauaia 2006; Markulis and Strang 1985; Mitri et al. 1998; Muhs and Callen 1984; Nulsen et al. 1994; Palia 1989, 1991; Peach 1996; Schellenberger 1983; Shane and Bailes 1986; Sherrell et al. 1986; Wingender and Wurster 1987; Woodruff 1992).

Decision support systems (DSSs) are defined as …a collection of data, systems, tools, and techniques with supporting software and hardware by which an organization gathers and interprets relevant information from business and environment and turns it into a basis for…action (Little 1979; Burns and Bush 1991). In addition, they are defined as computer-based information systems that support the process of structuring problems, evaluating alternatives, and selecting actions for more effective management (Forgionne 1988). Further, they are described as the hardware and software that permit decision-makers to deal with a specific set of related problems by providing tools that amplify a manager's judgment (Sprague 1980).

DSSs used with business simulations yield several benefits. These include greater depth of understanding of simulation activity with resulting increase in planning (Keys et al. 1986), in-depth understanding of quantitative techniques as students visualize the results of their applications, sensitivity to weaknesses in techniques used, and experience in capitalizing on their strengths (Fritzsche et al 1987). Other benefits include minimization of paperwork and errors, error-free graphical representation of output, a competitive tool with increasing value as simulation progresses, and potential for participants to

create their own DSSs (Burns and Bush 1991). In addition, DSSs enhance understanding of complex business relationships and provide additional value over time (Halpin 2006). Further, DSSs provide realism, relevance, literacy, flexibility and opportunity for refinement (Sherrell et al. 1986).

Some authors contend that combining an active student generated database in the form of a simulation game with a DSS will result in improved decision making, lead to improved pro-active rather than re-active strategic planning, and result in improved simulation game performance and enhanced learning (Muhs and Callen 1984). Others have reported no support for the premise that DSS usage improves small group decision making effectiveness (Affisco and Chanin 1989), and that DSS usage to support manufacturing function decisions resulted in decreased manufacturing costs and increased "earnings/cost of goods sold" ratio in the second year of play (Affisco and Chanin 1990).

Given the inconsistent findings with regard to the efficacy of DSSs reported in the literature, does DSS usage increase decision effectiveness and/or enhance learning? One scholar notes that while the DSS assists the decision maker, it does not make decisions, nor can it substitute for intelligent analysis and synthesis (Schellenberger 1983). In addition, as with other computer-based or experiential learning techniques, the effectiveness of DSSs or the decisions made are less important than the insights they generate. The level of insight generated depends heavily on the clear explanation of the purpose, significance, assumptions, usage, and limitations of the DSS and underlying concepts applied, by the instructor. In addition, the level of insight generated depends heavily on the debriefing process used by the instructor to crystallize student learning (Cannon et al. 1993).

The primary purpose of this paper is to present this new user-centered learning tool that helps to prepare students for strategic market planning and marketing decision-making responsibilities in their future careers. The objective of this decision support package is to provide participant teams the opportunity to apply integrated strategic market planning.

STRATEGY

The six elements of business strategy are the product market, level of investment, functional area strategies, sustainable competitive advantage, allocation of resources, and synergy (Aaker 2001). The product market covers products offered, markets served, which competitors to compete against, and the level of vertical integration. Equally important and implicit are which products not to offer, what markets not to serve, and which competitors not to compete against, given the limited resources of the organization.

The level of investment focuses on the decision to build share, hold share, harvest or divest. The functional area strategies include product line, segmentation, positioning, pricing, and manufacturing and distribution strategies. The core of strategy involves the derivation of a sustainable competitive advantage based on the firm's assets and resources such as brand name and installed customer base and competencies based on knowledge and process such as customer relationship program, manufacturing and promotion. The allocation of resources among SBUs and the derivation of synergy across SBUs are additional elements of strategy that need to be considered for multi-product multi-market firms (Aaker 2001).

An important dimension of strategy is the customer value proposition or the perceived functional, emotional, social or self-expressive benefit provided by the offering. The product market investment decision that covers product-market scope, investment intensity and resource allocation over business units helps a firm decide "where to compete." Then, the customer value proposition, assets and competencies and functional strategies and programs enables a firm decide "how to compete" (Aaker 2008).

This paper focuses on the product investment decision that covers product-market scope, investment intensity and resource allocation over business units and helps a firm decide "where to compete."

MARKETING STRATEGY

Marketing managers are charged with the responsibility of planning, organizing, implementing, and controlling marketing plans and programs that are designed to achieve a specific set of objectives (Bagozzi, et al, 1998; Churchill and Peter 1995; Dyer and Horman 1991; Kotler 2003; Kotler 1988; Kotler and Keller 2007; Lehman and Winer 1988; Lilien 1993; Lilien and Rangaswamy 2003; McCarthy and Perreault 1984; McCarthy and Perreault 1987; Perreault and McCarthy 1996).

First, marketing managers identify opportunities and threats in the external environment. They analyze the major customer segments, strategic competitor groupings, and salient market and environmental trends. Major customer segments are identified and their needs, purchase motivations, unmet needs are analyzed. Major strategic competitor groups are identified and their performance, image, objectives, strategies and weaknesses are analyzed. The size, growth, profitability, entry barriers, cost structure, distribution system, trends, and key success factors as well as emerging submarkets in the relevant product market are investigated. Relevant trends in the social-cultural, technological, economic, legal, political and other non-controllable external environments are studied. This external analysis is used to identify opportunities, threats, trends and strategic uncertainties.

Next, marketing managers analyze their own firm's

performance on such dimensions as profitability, sales, shareholder value analysis, customer satisfaction, product quality, brand associations, relative cost, new products, employee capability and performance. In addition, they study their own strategic problems, constraints, strengths, weaknesses and liabilities. This internal analysis is used to identify their own strengths, weaknesses, liabilities, problems, constraints and uncertainties.

Then, marketing managers (a) identify strategic alternatives with regard to product market investment strategies, customer value proposition, assets, competencies, and synergies, and functional strategies and programs, (b) select a strategy, (c) implement an operating plan, and (d) periodically review and adapt strategies.

Based on the above analysis of the opportunities and threats in the external environment and an assessment of the firm's own strengths and weaknesses, marketing managers generate a vision, define a mission, establish specific goals, and formulate a strategy in order to achieve the mission. Strategies used include differentiation strategy, low-cost strategy, focus strategy, preemptive move, and synergy. An offering can be differentiated based on performance, quality, prestige, features, service backup, reliability, and/or convenience. A low-cost strategy involves the creation of a sustainable cost advantage through high market share, favorable access to raw materials, and/or state-of-the-art manufacturing equipment. A focus or niche strategy seeks to establish and maintain dominance in a narrow product line. It is central to the creation of a sustainable competitive advantage. The preemptive move strategy generates an asset or competency, forms the basis of a sustainable competitive advantage and inhibits competitors. Finally, synergy can be achieved through sharing sales force or office space, and reduces cost or investment needed (Aaker 2001).

In performing their responsibilities, marketing managers are faced with scarce resources (discretionary marketing dollars) and unlimited wants to allocate these limited resources across individual SBUs in their brand portfolio in order to achieve their objectives. Consequently, they need to allocate the scarce resources at their disposal both effectively and efficiently. The efficient allocation of scarce marketing resources in order to optimize the overall performance of a portfolio of SBUs is the heart of strategic market planning.

STRATEGIC MARKET PLANNING

Strategic market planning is a complex problem for multi-product, multimarket companies. These firms may have numerous products serving several markets with differing potentials. Some products may be in a dominant position relative to competitors, while others may be in a weaker position. Each product will have its own strategy, and may face several competitive products having their own marketing strategies. Some products may be profitable while others may need cash to finance growth or to fight competition.

Faced with this complex situation, the organization must allocate its limited resources among these products in order to optimize its overall performance (Abell and Hammond 1979). In order to optimize the overall performance of its portfolio of products, the organization first monitors and analyzes the performance of each of its strategic business units (products). This analysis is conducted by the firm in order to decide which strategic business units to build, maintain, harvest, and divest. One of the best known and widely used models for this purpose is the Boston Consulting Group Product Portfolio Analysis model (Kotler 1988).

The product portfolio analysis model developed by the Boston Consulting Group assigns strategic roles for each product based on the product's market growth rate and market share relative to competitors. These individual roles are then integrated into a strategy for the whole portfolio of products, taking into consideration the product portfolios of the main competitors. The objective of the firm, when using the product portfolio approach, is to optimize the performance of the entire portfolio of products, while maintaining cash flow in balance. Differences in growth potential, relative market share and hence cash flow potential unique to each product are identified. This analysis helps to determine which products represent investment opportunities, which products should supply investment funds, and which products should be candidates for elimination.

The growth share matrix (GSM) and the growth gain matrix (GGM) are used to display the relevant information about the firm's portfolio of products. These displays help to reduce the inherent complexity of the problem to manageable proportions. The heart of product portfolio analysis involves the creation and interpretation of the GSM and GGM displays for the firm and its main competitors. Based upon GSM data, each firm's strategic business units (products) are classified into four categories – "Cash Cows," "Dogs," "Problem Children," and "Stars" (Abell and Hammond 1979; Day 1986).

The Product Portfolio Analysis package enables an organization to generate GSMs and GGMs for their own and competing firms. These matrices are used in strategic market planning. Static, comparative static and dynamic analysis of the product portfolios of the firm and its main competitors can be performed with the use of the revised package. Based on these displays, the organization can (1) check for internal balance in the brand portfolio, (2) look for trends, (3) evaluate competition, (4) consider other factors not captured in the portfolio display, and (5) develop alternative "target" portfolios along with associated strategies for achieving them (Palia 1991; Palia 1995; Palia 1996; Palia 2002). The SMP Cash Flow Package enables

the organization to (6) check financial balance and adjust the strategic market plan associated with a target portfolio (covered in step 5). Consequently the SMP Cash Flow Package enables the organization to optimize the performance of the entire portfolio of products, while maintaining cash flow in balance.

THE MARKETING SIMULATION COMPETE

COMPETE (Faria 2006) is a marketing simulation designed to provide students with marketing strategy development and decision-making experience. Competing student teams are placed in a complex, dynamic, and uncertain environment. The participants experience the excitement and uncertainty of competitive events and are motivated to be active seekers of knowledge. They learn the need for and usefulness of mastering an underlying set of decision-making principles.

Competing student teams plan, implement, and control a marketing program for three high-tech products in three regions Region 1 (R1), Region 2 (R2) and Region 3 (R3) within the United States. These three products are a Total Spectrum Television (TST), a Computerized DVD/Video Editor (CVE) and a Safe Shot Laser (SSL). The features and benefits of each product and the characteristics of consumers in each region are described in the student manual. Based on a marketing opportunity analysis, a mission statement is generated, specific and measurable company goals are set, and marketing strategies are formulated to achieve these goals. Constant monitoring and analysis of their own and competitive performance helps the teams better understand their markets and improve their decisions.

Each decision period (quarter), the competing teams make a total of 74 marketing decisions with regard to marketing their three brands in the three regional markets. These decisions include nine pricing decisions, nine shipment decisions, three sales force size decisions, nine sales force time allocation decisions, one sales force salary decision, one sales force commission decision, twenty-seven advertising media decisions, nine advertising content decisions, three quality-improvement R&D decisions, and three cost-reduction R&D decisions. Successful planning, implementation, and control of their respective marketing programs require that each company constantly monitor trends in its own and competitive decision variables and resulting performance.

COMPETE ONLINE DECISION ENTRY SYSTEM (CODES)

The COMPETE Online Decision Entry System (CODES) is a web-based simulation interface that enables competing participant teams with Internet access, to register their teams, enter and submit their decisions, and subsequently to retrieve and print out their results from a remote site (Palia, Mak and Roussos 2000).

The teams log in to the CODES website (Palia and Mak 2001, Palia, Mak and Roussos 2000). Their login is validated against a database of participating teams for each industry, and they have access to their decisions and printouts (results) for all prior decision periods.

Once the team ID and password are validated against a database of participating teams, the user (participant) is presented with a personalized Welcome screen with several options. In addition to the "Main Menu" option, the user is presented with one or more of three dynamic links "Grades," "Handouts," and "Performance" only if and when the corresponding files are uploaded to their industry folder on the web server by the administrator (Palia 2006, Palia 2007, Palia 2008).

At the "Main Menu" webpage they select "Enter Decisions" to enter their team decisions prior to the decision deadline. At the decision deadline, the administrator downloads the team decision files, runs the simulation, and uploads the text and Excel versions of the simulation results to the Web Server. Later, the teams log in to CODES, proceed to the Main Menu, and select "View Results" to view their team performance results in either text or Excel format.

The competing participant teams are provided with access to online strategic market planning (Palia et al. 2002), positioning (Palia et al. 2003), sales forecast model-building (Palia 2004), budgeting (Palia 2007), market testing (Palia and Roussos 2006), target profit pricing (Palia 2008), strategic business unit analysis (Palia 2009) and other performance enhancing tools (Palia 2005) in order to facilitate user-centered learning (Palia et al. 2000).

STRATEGIC MARKET PLAN (SMP) CASH FLOW PACKAGE

The web-based Strategic Market Plan (SMP) Cash Flow Package Version 2.0 is accessible online to competing participant teams in the marketing simulation COMPETE. The SMP Cash Flow Package Version 2.0 is a zipped folder "Sources and Uses of Cash.zip" which consists of an Excel workbook "Sources and Uses of Cash.xls" (with external links to each of the x.xls COMPETE output files) and x.xls Excel version of sample COMPETE output for all specified periods "x". This Sources and Uses of Cash.xls workbook consists of two worksheets (a) Quarterly Cash Flow worksheet (with external links to the COMPETE output files) and (b) Annual Cash Flow worksheet (with internal links to the Quarterly Cash Flow worksheet.

The Quarterly Sources and Uses of Cash worksheet (see Figure 1) consists of external links to the quarterly

COMPETE output files. This worksheet computes the annual values for each of the sources and uses of cash from the quarterly values for the first twelve quarters (three years) of operation. In addition, the total sources of cash, total uses of cash and net cash surplus or deficit for each quarter and year are calculated. The user enters the projected sources and uses of cash based on the formulated strategic market plan for the fourth year of operation. Based on these entries, the worksheet calculates the projected percentage growth rates from year 3 to year 4 for each of the sources and uses of cash.

The Annual Sources and Uses of Cash worksheet (see Figure 2) consists of internal links to the Quarterly Sources and Uses of Cash worksheet. This worksheet provides the user with the annual values for each of the sources and uses of cash for the first three years of operation. Given these benchmarks and trends over the first three years of operation, the user enters the projected sources and uses of cash based on the formulated strategic market plan for the fourth year of operation. Based on these entries, the worksheet calculates the projected percentage growth rates from year 3 to year 4 for each of the sources and uses of cash. In addition, each use of cash is computed as a percent of the total sources of cash for each year of operation.

The SMP Cash Flow Package extracts relevant data via external links on each of the sources and uses of cash from the Excel version of the COMPETE simulation results. First, this package extracts the Cash Position from the respective Balance Sheet for each decision period (quarter). Next, this package extracts (a) Total Quarterly Sales + Extraordinary Income, and (b) Income from interest-bearing securities from the respective USA Income Statement for each quarter. In addition, this package extracts the uses of cash during each quarter. These uses of cash include (a) Current Production Costs for all products, (b) Storage Charges for all products, (c) Advertising expenses, (d) Total Salesforce expenses, (e) Marketing Research, (f) Consulting Fee, (g) Administrative expense, (h) Research & Development, (i) Interest expense, and (j) Tax on corporate earnings. Based on the formulated Strategic Market Plan, participants enter (a) projected sources and uses of cash for the fourth year of operation.

The relevant data are extracted from the COMPETE Results Excel workbook x.xls to the SMP Cash Flow worksheet as indicated in Figure 3. The Excel worksheet (tab), page number in the Excel-version of the COMPETE results printout, and cell references for each account are shown in the COMPETE Results Workbook table (on the right). The corresponding cell references for each account are shown in the SMP Cash Flow Analysis worksheet table (on the left). For instance, the Current Production Cost for all three products TST, CVE and SSL (fourth data entry in cell B11 on the SMP Quarterly Sources and Uses of Cash.xls worksheet on the left in Figure 2) is computed by extracting and adding the TST Current Production Cost (cell E17), CVE Current Production Cost (cell F17), and SSL Current Production Cost (cell G17) from the U.S.A. Income Statement on page 2 of the COMPETE Results Workbook 1.xls (on the right in Figure 2).

Based on the extracted data and participant inputs, this package calculates the annual values for each of the sources and uses of cash from the quarterly values for the first twelve quarters (three years) of operation. In addition, the total sources of cash, total uses of cash and net cash surplus or deficit for each quarter and year are calculated. The user enters the projected sources and uses of cash based on the formulated strategic market plan for the fourth year of operation. Based on these entries, the worksheet calculates the projected percentage growth rates from year 3 to year 4 for each of the sources and uses of cash. The use of external links ensures relevant data are extracted from relevant sources (statements) in the simulation results and precludes data entry error. Cell formulae ensure that accounts such as Current Production Cost are computed accurately from the TST, CVE and SSL Current Production Costs extracted from the relevant U.S.A. Income Statement. Cell comments (see Figures 4 & 5) clarify variables used and calculations made.

STRATEGIC MARKET PLAN (SMP) CASH FLOW PROCESS

First, the participant teams download and unzip the Sources and Uses of Cash.zip folder. Next, they login to CODES and download, rename and save the Excel version of results for all twelve periods (quarters) "x" in the unzipped "C:\Sources and Uses of Cash" directory. Then, they update the Sources and Uses of Cash.xls workbook with team data. For instance, to update the Sources and Uses of Cash Quarterly Cash Flow worksheet with team data, they first open the unzipped Sources and Uses of Cash folder, then open the Sources and Uses of Cash.xls workbook, and finally click "Update file" in the pop-up menu that appears.

The cash position is extracted from the balance sheet, and the sales revenue, extraordinary income (EOI), and income from Investments are extracted from the USA Income Statement for the first twelve periods (quarters) of operation. These accounts are added to yield the total sources of cash for each of the first twelve quarters. In addition, the annual values of each of the above sources of cash are computed from the quarterly values.

The current production cost and storage charge for each of the three products TST, CVE and SSL are extracted from the USA Income Statements for the first twelve quarters of operation. The total production costs and storage charges for all three products are determined by summation of the individual product production costs and storage charges. Next, the advertising, sales force, marketing research, consulting fee, administrative, research and development, and interest expenses, as well as taxes on corporate earnings are extracted from the USA Income Statements for the first

twelve periods of operation in the Excel version of the simulation results. These accounts are added to yield the total uses of cash for each of the first twelve quarters. In addition, the annual values of each of the above uses of cash are computed from the quarterly values.

Figure 1
SMP Quarterly Sources and Uses of Cash Worksheet
(in $'000s)

Period ==>	1	2	3	4	Year 1	5	6	7	8	Year 2	9	10	11	12	Year 3	Year 4	Percent Change
Sources of Cash																	
Beginning Cash Balance	$ 100	$ 100	$ 817	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000		
Sales Revenue + EOI	$ 44,752	$ 39,246	$ 57,068	$ 81,253	$ 222,319	$ 52,048	$ 44,019	$ 62,378	$ 85,051	$ 243,496	$ 53,363	$ 44,122	$ 60,558	$ 81,964	$ 240,007		-100%
Income from Investments	$ -	$ -	$ -	$ -	$ -	$ 5	$ 130	$ 167	$ 289	$ 591	$ 252	$ 485	$ 557	$ 503	$ 1,797		-100%
Total Sources:	$ 44,852	$ 39,346	$ 57,885	$ 82,253	$ 223,319	$ 53,053	$ 45,149	$ 63,545	$ 86,340	$ 245,087	$ 54,615	Int	$ 62,115	$ 83,467	$ 242,804	$ -	-100%
Uses of Cash																	
Current Production Cost	$ 43,160	$ 29,904	$ 45,997	$ 69,953	$ 189,014	$ 40,664	$ 35,410	$ 49,892	$ 74,891	$ 200,857	$ 38,707	$ 34,358	$ 52,738	$ 64,747	$ 190,550		-100%
Storage Charge	$ 323	$ 258	$ 278	$ 476	$ 1,335	$ 389	$ 393	$ 321	$ 539	$ 1,642	$ 321	$ 273	$ 424	$ 310	$ 1,328		-100%
Advertising Expenditures	$ 1,540	$ 1,450	$ 1,880	$ 2,470	$ 7,340	$ 1,820	$ 1,730	$ 2,110	$ 2,530	$ 8,190	$ 2,040	$ 1,820	$ 2,200	$ 2,500	$ 8,560		-100%
Sales Force Expense	$ 1,333	$ 1,578	$ 1,991	$ 2,377	$ 7,279	$ 1,752	$ 1,706	$ 2,245	$ 2,553	$ 8,256	$ 1,876	$ 1,802	$ 2,159	$ 2,485	$ 8,322		-100%
Marketing Research Cost	$ 825	$ 825	$ 825	$ 825	$ 3,300	$ 825	$ 825	$ 825	$ 825	$ 3,300	$ 825	$ 825	$ 825	$ 825	$ 3,300		-100%
Consulting Fee	$ 150	$ 150	$ 150	$ 150	$ 600	$ 150	$ -	$ 150	$ 150	$ 450	$ 150	$ 150	$ 150	$ -	$ 450		-100%
Administrative Expenses	$ 300	$ 300	$ 300	$ 300	$ 1,200	$ 300	$ 300	$ 300	$ 300	$ 1,200	$ 300	$ 300	$ 300	$ 300	$ 1,200		-100%
Reseach and Development	$ 1,750	$ 1,750	$ 1,750	$ 2,500	$ 7,750	$ 2,500	$ 2,500	$ 3,000	$ 3,000	$ 11,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 12,000		-100%
Interest	$ -	$ 212	$ 92	$ -	$ 304	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		#DIV/0!
Taxes	$ 504	$ 416	$ 1,258	$ 1,890	$ 4,068	$ 533	$ 358	$ 649	$ 1,491	$ 3,031	$ 570	$ 273	$ 667	$ 1,857	$ 3,367		-100%
Total Uses:	$ 49,885	$ 36,843	$ 54,521	$ 80,941	$ 222,190	$ 48,933	$ 43,222	$ 59,492	$ 86,279	$ 237,926	$ 47,789	$ 42,801	$ 62,463	$ 76,024	$ 229,077	$ -	-100%
Cash Surplus or Deficit:	$ (5,033)	$ 2,503	$ 3,364	$ 1,312	$ 1,129	$ 4,120	$ 1,927	$ 4,053	$ 61	$ 7,161	$ 6,826	#VALUE!	$ (348)	$ 7,443	$ 13,727	$ -	

LEGEND: Data Entry Cells

Figure 2
SMP Annual Sources and Uses of Cash Worksheet
(in $'000s)

Year ==>	Year 1	Year 2	Year 3	Projected Year 4	Year 3 - 4 Percent Change
Sources of Cash					
Cash Position at Beg. of Period	$ 1,000	$ 1,000	$ 1,000		
Sales Revenue + EOI	$ 222,319	$ 243,496	$ 240,007		-100%
Income from Investments	$ -	$ 591	$ 1,797		-100%
Total Sources:	$ 223,319	$ 245,087	$ 242,804	$ -	-100%
Uses of Cash					
Current Production Cost	$ 189,014	$ 200,857	$ 190,550		-100%
Storage Charge	$ 1,335	$ 1,642	$ 1,328		-100%
Advertising Expenditures	$ 7,340	$ 8,190	$ 8,560		-100%
Sales Force Expense	$ 7,279	$ 8,256	$ 8,322		-100%
Marketing Research Cost	$ 3,300	$ 3,300	$ 3,300		-100%
Consulting Fee	$ 600	$ 450	$ 450		-100%
Administrative Expenses	$ 1,200	$ 1,200	$ 1,200		-100%
Reseach and Development	$ 7,750	$ 11,000	$ 12,000		-100%
Interest	$ 304	$ -	$ -		#DIV/0!
Taxes	$ 4,068	$ 3,031	$ 3,367		-100%
Total Uses:	$ 222,190	$ 237,926	$ 229,077	$ -	-100%
Cash Surplus or Deficit:	$ 1,129	$ 7,161	$ 13,727	$ -	

Year ==>	Year 1	Year 2	Year 3	Projected Year 4
Total Sources:	$ 223,319	$ 245,087	$ 242,804	$ -
	% of Total Sources	**% of Total Sources**	**% of Total Sources**	**% of Total Sources**
Uses of Cash				
Current Production Cost	85%	82%	78%	#DIV/0!
Storage Charge	1%	1%	1%	#DIV/0!
Advertising Expenditures	3%	3%	4%	#DIV/0!
Sales Force Expense	3%	3%	3%	#DIV/0!
Marketing Research Cost	1%	1%	1%	#DIV/0!
Consulting Fee	0%	0%	0%	#DIV/0!
Administrative Expenses	1%	0%	0%	#DIV/0!
Reseach and Development	3%	4%	5%	#DIV/0!
Interest	0%	0%	0%	#DIV/0!
Taxes	2%	1%	1%	#DIV/0!

LEGEND: Data Entry Cells
Data Extracted from Results

Figure 3
SMP Cash Flow Worksheet
(in $'000s)

Data Extraction from COMPETE Results Workbook.xls To SMP Quarterly Sources and Uses of Cash Worksheet						
COMPETE SMP Cash Flow Worksheet			**COMPETE Results Workbook.xls**			
Account	**Cell Ref.**		**Worksheet (Tab)**	**Page #**	**Account**	**Cell Ref.**
Sources of Cash						
Beginning Cash Balance	B6	from ==>	Balance Sheet	1	Cash Position	E10
Sales Revenue + Extraordinary Income	B7	from ==>	USA Income Statement	2	Total Quarterly Sales + EOI	H13 + H42
Income from Investments	B8	from ==>	USA Income Statement	2	Income from interest-bearing securities	H43
Uses of Cash						
Current Production Cost	B11	from ==>	USA Income Statement	2	Current Production (TST + CVE + SSL)	E17 + F17 + G17
Storage Charge	B12	from ==>	USA Income Statement	2	storage charge (TST + CVE + SSL)	E20 + F20 + G20
Advertising Expenditures	B13	from ==>	USA Income Statement	2	Advertising	G34
Sales Force Expense	B14	from ==>	USA Income Statement	2	Total salesforce expenses	G33
Marketing Research Cost	B15	from ==>	USA Income Statement	2	Marketing research	G28
Consulting Fee	B16	from ==>	USA Income Statement	2	Consulting Fee	G37
Administrative Expenses	B17	from ==>	USA Income Statement	2	Administrative	G26
Research and Development	B18	from ==>	USA Income Statement	2	Research & Development	G35
Interest	B19	from ==>	USA Income Statement	2	Interest	G36
Taxes	B20	from ==>	USA Income Statement	2	Tax on corporate earnings	H47

Figure 4
SMP Quarterly Sources and Uses of Cash Worksheet With Cell Comments
(in $'000s)

Period ==>	1	2	3	4	Year 1	5	6	7	8	Year 2	9	10	11	12	Year 3	Year 4	Percent Change
Sources of Cash																	
Beginning Cash Balance	$ 100	$		1,000	$		1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000		
Sales Revenue + EOI	$ 44,752	$		1,253	$		44,019	$		43,496	$ 53,363	$ 44,122	$ 60,558	$ 81,964	$ 240,007		-100%
Income from Investments	$ -	$		-	$		130	$		591	$ 252	$ 485	$ 557	$ 503	$ 1,797		-100%
Total Sources:	$ 44,852	$ 39,346	$ 57,885	$ 82,253	$		45,149	$		45,087	$ 54,615	Int	$ 62,115	$ 83,467	$ 242,804	$ -	-100%
Uses of Cash																	
Current Production Cost	$ 43,160	$		9,953	$		35,410	$		00,857	$ 38,707	$ 34,358	$ 52,738	$ 64,747	$ 190,550		-100%
Storage Charge	$ 323	$		476	$		393	$		1,642	$ 321	$ 273	$ 424	$ 310	$ 1,328		-100%
Advertising Expenditures	$ 1,540	$		2,470	$		1,730	$		8,190	$ 2,040	$		,500	$ 8,560		-100%
Sales Force Expense	$ 1,333	$		2,377	$		1,706	$		8,256	$ 1,876	$		,485	$		-100%
Marketing Research Cost	$ 825	$		825	$		825	$		3,300	$ 825	$		825	$		-100%
Consulting Fee	$ 150	$		150	$		-	$ 150	$ 150	$ 450	$ 150	$		-	$		-100%
Administrative Expenses	$ 300	$		300	$		300	$		1,200	$ 300	$ 300	$ 300	$ 300	$		-100%
Reseach and Development	$ 1,750	$		2,500	$		2,500	$		11,000	$ 3,000	$		3,000	$ 12,000		-100%
Interest	$ -	$ 212	$ 92	$ -	$		-	$		-	$ -	$		-	$		#DIV/0!
Taxes	$ 504	$ 416	$ 1,258	$ 1,890	$ 4,068	$ 533	$ 358	$		3,031	$ 570	$		1,857	$		-100%
Total Uses:	$ 49,885	$ 36,843	$ 54,521	$ 80,941	$ 222,190	$ 48,933	$ 43,222	$ 59,492	$ 86,279	$ 237,926	$ 47,789	$		6,024	$		-100%
Cash Surplus or Deficit:	$ (5,033)	$ 2,503	$ 3,364	$ 1,312	$ 1,129	$ 4,120	$ 1,927	$ 4,053	$ 61	$ 7,161	$ 6,826	#VALUE!	$ (348)	$ 7,443	$		

Aspy P. Palia: Cash Position extracted from Balance Sheet for Period 1.

Aspy P. Palia: (Total Sales + EOI) extracted from USA Income Statement for Period 4.

Aspy P. Palia: Income from interest-bearing securities extracgted from Income Statement for Period 6.

Aspy P. Palia: Current Production Cost (TST + CVE + SSL) extracted from USA Income Statement for Period 1.

Aspy P. Palia: Storage Charge (TST + CVE + SSL) extracted from USA Income Statement for Period 4.

Aspy P. Palia: Advertising exptracted from Income Statement for Period 6.

Aspy P. Palia: Total salesforce expenses extracted from Income Statement for Period 9.

Aspy P. Palia: Marketing Research extracted from Income Statement for Period 12.

Aspy P. Palia: Consulting Fee extracted from Income Statement for Period 1.

Aspy P. Palia: Administrative expense extracted from Income Statement for Period 4.

Aspy P. Palia: Research & Development extracted from Income Statement for Period 6.

Aspy P. Palia: Interest expense extracted from Income Statement for Period 9.

Aspy P. Palia: Tax on corporate earnings extracted from Income Statement for Period 12.

LEGEND: Data Entry Cells
Data Extracted from Results

Then, the user enters the projected sources and uses of cash based on the formulated strategic market plan for year 4. Based on the extracted data and participant inputs, the SMP Cash Flow Package calculates the percentage change in each of the sources and uses of cash from Year 3 to Year 4, as well as the total sources, total uses and net cash balance for each year. In addition, each use of cash is computed as a percent of the total sources of cash for each year of operation. The use of external links ensures relevant data are extracted from relevant sources (statements) in the simulation results and precludes data entry error. Cell comments (see Figure 4 &5) clarify variables used and calculations made. Color-coded cells specify where data are extracted and where they need to be entered by the user.

STRENGTHS AND LIMITATIONS

The Online SMP Cash Flow Package is used to determine the viability of a strategic market plan after the user has checked the internal balance of the SBU portfolio, looked for trends in SBU trajectories, evaluated the SBU portfolios of major competitors, considered other factors not reflected in the GSM and GGM visual displays, and developed alternative target portfolios to reflect optimistic, realistic and pessimistic scenarios. Next, this package is used to check the financial balance of the projected target portfolio.

Positive anecdotal student feedback was received at the end of the Spring 2009 semester. Some undergraduate students reported that the decision support packages were very useful and helpful. They indicated that the automatic extraction feature saved a lot of time that would otherwise be necessary to identify, enter and compute the necessary figures. They hoped that it would continue to be used in the future as it definitely made a difference. Other students indicated that they did not make full use of the DSS.

Admittedly, integrated strategic market planning is a complex iterative task that requires considerable effort, judgment and experience. The user needs to (a) monitor the performance of their SBU portfolio as well as the SBU portfolios of their major competitors over several years, (b) calculate the relative market share, industry growth rates, SBU Sales Revenue, and brand growth rates, (c) generate the GSM and GGM visual displays, (d) interpret and analyze these displays on a sustained basis, (e) formulate an integrated strategic market plan, and (f) accurately project performance results and expenses incurred.

Despite these limitations, the SMP Cash Flow Package is a simple yet powerful web-based user-centered learning tool that extracts relevant data from the simulation results, precludes data entry error, and saves considerable time involved in identifying and entering relevant data. Yet, in order to maximize learning about Strategic Market Planning, and actualize the potential of the SMP Cash Flow Package, the instructor needs to (a) explain the purpose, significance, assumptions, usage, and limitations of this DSS package, (b) require inclusion of a sample analysis in a team report and/or presentation, and (c) test students on their understanding of the underlying concepts at the end of the semester.

In the final analysis, use of the SMP Cash Flow Package and integrated strategic market planning can help to optimize the overall performance of the brand portfolio while maintaining cash in balance and thereby justify the considerable effort and time involved.

CONCLUSION

The Online SMP Cash Flow Package is a user-centered learning tool that helps to prepare students for strategic market planning and marketing decision-making responsibilities in their future careers. The package enables users to apply strategic market planning and to assess the financial viability of their formulated strategic market plan. Participants use the SMP Cash Flow Package to determine the financial viability of their strategic market plan. If a cash deficit is anticipated based on participant projections, they can modify the strategies for their individual SBUs in order to restore cash balance. Accordingly, participants apply integrated strategic market planning in order to optimize the performance of their brand portfolio while maintaining cash in balance. This online SMP Cash Flow Package facilitates the integration of computers, the Internet and the World Wide Web into the marketing curriculum.

REFERENCES

Aaker, David A. (2008). *Strategic Market Management*, 8th ed. New York, NY: Wiley.

_____ (2001). *Strategic Market Management*, 6th ed. New York, NY: Wiley.

Abell, Derek F. and John S. Hammond (1979), *Strategic Market Planning: Problems and Analytical Approaches*. Englewood Cliffs, NJ: Prentice Hall.

Affisco, John F. and Michael N. Channin (1989). "The Impact of Decision Support Systems on The Effectiveness of Small Group Decisions - An Exploratory Study." *Developments in Business Simulation and Experiential Learning*, Vol. 16, 132-5. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

_____ and _____ (1990). "The Impact of Decision Support Systems On The Effectiveness of Small Group Decisions – Revisited." *Developments in Business Simulation and Experiential Learning*, Vol. 17, 1-5. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

Bagozzi, Richard P., Jose Antonio Rosa, Kirti Sawhney Celly, and Francisco Coronel (1998). *Marketing*

Management. Upper Saddle River, NJ: Prentice Hall.

Burns, Alvin C. and Ronald F. Bush (1991). "Using DIS 'n DAT as a Decision Support System for a Marketing Simulation Game." *Developments in Business Simulation and Experiential Learning*, Vol. 18, 5-10. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

Cannon, Hugh M, Philip G. Carroll and Brett L. Seamons (1993). "Using The IdeaFisher Idea Generation System as a Decision Support System in Marketing Strategy Courses." *Developments in Business Simulation and Experiential Learning*, Vol. 20, 27-30. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

Churchill, Gilbert A., Jr. and J. Paul Peter (1995). *Marketing: Creating Value for Customers*. Burr Ridge, IL: Irwin.

Faria, A.J., (2006). *COMPETE: A Dynamic Marketing Simulation*, 5th ed. Windsor, CA: University of Windsor.

_____, Grover W. Rodich and Richard V. Cotter (1987). "Integrating Decision Support Systems and Business Games." *Developments in Business Simulation and Experiential Learning*, Vol. 14, 63-66. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

Forgionne, Guisseppi A. (1988), "Building Effective Decision Support Systems." *Business*, Vol. 38 (1), 19-30.

_____, Grover W. Rodich and Richard V. Cotter (1987). "Integrating Decision Support Systems and Business Games." *Developments in Business Simulation and Experiential Learning*, Vol. 14, 63-66. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

Grove, Stephen J., Gregory H. Pickett and Robert H. Williams (1986). "The Subjective Side of The Decision Support System A Pitfall For The Panacea." *Developments in Business Simulation and Experiential Learning*, Vol. 13, 170-173. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

Halpin, Annette L. (2006). "A Decision Support System For Planning Sales, Production, and Plant Addition With Manager: A Computer Simulation." *Developments in Business Simulation and Experiential Learning*, Vol. 33, 289-293. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

Honaiser, Eduardo and Antonio Carlos Aidar Sauaia (2006). "Decision Support System For Demand Forecasting in Business Games," *Developments in Business Simulation and Experiential Learning*, Vol. 33, 223-231. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://www.org]

Keys, J. Bernard and William D. Biggs (1990). "A Review of Business Games," in: Gentry, James W. (1990) ed., *Guide to Business Gaming and Experiential Learning*, Chapter 5. Association for Business Simulation and Experiential Learning (ABSEL), 48-73. East Brunswick/Kogan Page, London: Nichols/GP Publishing.

_____, O. Maxie Burns, Thomas L. Case, and Robert A. Wells (1986). "Performance and Attitudinal Affects of a Decision Support Package in a Business Game." *Developments in Business Simulation and Experiential Learning*, Vol. 13, 221-226. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

Kotler, Philip (2003). *Marketing Management*, 11th ed. Upper Saddle River, NJ: Prentice-Hall.

_____ (1988). *Marketing Management: Analysis, Planning, Implementation and Control*, 6th ed. Englewood Cliffs, NJ: Prentice-Hall.

_____ (2000). *Marketing Management: Analysis, Planning, Implementation and Control*, Millennium Edition. Englewood Cliffs, NJ: Prentice-Hall.

_____ and Kevin Lane Keller (2007). *A Framework for Marketing Management*, 3rd ed. Upper Saddle River, NJ: Prentice Hall.

Lehman, Donald R. and Russell S. Winer (1988). *Analysis for Marketing Planning*. Plano, TX: Business Publications, Inc.

Lilien, Gary L. (1993). *Marketing Management*, 2nd ed. San Francisco, CA: Scientific Press.

_____ and Arvind Rangaswamy (2003). *Marketing Engineering: Computer-Assisted Marketing Analysis and Planning*, 2nd ed. Upper Saddle River, NJ: Prentice-Hall.

Little, John D.C. (1979). "Decision Support Systems for Marketing Managers," *Journal of Marketing*, 43 (Summer), 9-26.

Markulis, Peter M. and Daniel R. Strang (1985). "The Use of Decision Support Systems (DSS) and Operations Research/Management Science (OR/MS) Techniques to Enhance the Learning Experience of Students Participating in Computerized Simulations," *Developments in Business Simulation and Experiential Learning*, Vol. 12, 30-34. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

McCarthy, E. Jerome and William D. Perreault, Jr. (1984). *Basic Marketing*, 8th ed. Homewood, IL: Irwin.

_____ and _____ (1987). *Basic Marketing*, 9th ed. Homewood, IL: Irwin.

_____ and _____ (1993). *Basic Marketing: A Global-Managerial Approach*, 11th ed. Homewood, IL: Irwin.

Mitri, Michel, Grigorios Karimalis, Hugh Cannon and Attila Yaprak (1998). "The Market Access Planning System (MAPS): Computer-Based Decision Support System For Facilitating Experiential Learning in International

Business," *Developments in Business Simulation and Experiential Learning*, Vol. 25, 101-107. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

Muhs, William F. and Richard W. Callen (1984). "Incorporating Decision Support Systems Into Management Simulation Games: A Model and Methodology," *Developments in Business Simulation and Experiential Learning*, Vol. 11, 261-266. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

Nulsen, Ray O., Jr., Anthony J. Faria and Dean S. Roussos (1994). "The Use of Decision Support Systems With a Marketing Simulation: The Future is Now," *Developments in Business Simulation and Experiential Exercises*, Vol. 21, 169. Reprinted in the *Bernie Keys Library*, 1st edition [Available from http://ABSEL.org]

_____, Dean S. Roussos and Anthony J. Faria (1993). "Using Lotus 1-2-3 to Complete a Triple Play In a Simulated Competition," *Developments in Business Simulation and Experiential Exercises*, Vol. 20, 132. Reprinted in the *Bernie Keys Library*, 1st edition [Available from http://ABSEL.org]

Palia, Aspy P. (1995). "Comparative Static Analysis With The COMPETE PPA Package: A Strategic Market Planning Tool," *Developments in Business Simulation and Experiential Exercises*, Vol. 22, 130-1. Reprinted in the *Bernie Keys Library*, 1st edition [Available from http://ABSEL.org]

_____ (1996). "Strategic Analysis of the Product Portfolio With The COMPETE PPA Package: A Strategic Market Planning Tool," *Developments in Business Simulation and Experiential Exercises*, Vol. 23, 93. Reprinted in the *Bernie Keys Library*, 1st edition [Available from http://ABSEL.org]

_____ (1991). "Strategic Market Planning With The COMPETE Product Portfolio Analysis Package: A Marketing Decision Support System," *Developments in Business Simulation and Experiential Exercises*, Vol. 18, 80-3. Reprinted in the *Bernie Keys Library*, 1st edition [Available from http://ABSEL.org]

_____ (2007). "Online Budgeting and Marketing Control With the Proforma Analysis Package," *Developments in Business Simulation and Experiential Learning*, Vol. 34, 149-54. Reprinted in the *Bernie Keys Library*, 8th edition [Available from http://ABSEL.org]

_____ (2005). "Online Cumulative Simulation Team Performance Package," *Developments in Business Simulation and Experiential Learning*, Vol. 32, 233-39. Reprinted in the *Bernie Keys Library*, 6th edition [Available from http://ABSEL.org]

_____ (2004). "Online Sales Forecasting With the Multiple Regression Analysis Data Matrices Package," *Developments in Business Simulation and Experiential Learning*, Vol. 31, 53-7. Reprinted in the *Bernie Keys Library*, 5th edition [Available from http://ABSEL.org]

_____ (1989). "Sensitivity Analysis With The COMPETE IFPS/Personal Student Analysis Package: A Marketing Decision Support System," *Developments in Business Simulation and Experiential Learning*, Vol. 16, 141-4. Reprinted in *The Bernie Keys Library*, 1st edition [Available from http://ABSEL.org]

_____ (2009). "Online Marketing Control With The Strategic Business Unit Analysis Package," *Developments in Business Simulation and Experiential Exercises*, Vol. 36, 91-101. Reprinted in the *Bernie Keys Library*, 10th edition [Available from http://ABSEL.org]

_____ (1991). "Strategic Market Planning With The COMPETE Product Portfolio Analysis Package: A Marketing Decision Support System," *Developments in Business Simulation and Experiential Exercises*, Vol. 18, 80-3. Reprinted in *The Bernie Keys Library*, 1st edition [Available from http://ABSEL.org]

_____ (2008). "Target Profit Pricing With the Web-based Breakeven Analysis Package," *Developments in Business Simulation and Experiential Exercises*, Vol. 35, 197-204. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

_____ & Dean S. Roussos (2006). "Online Market Test Laboratory With the MINISIM Program," *Developments in Business Simulation and Experiential Learning*, Vol. 33, 238-41. Reprinted in the *Bernie Keys Library*, 7th edition [Available from http://ABSEL.org]

_____ & Mak, Wai Keong (2001). "An Online Evaluation of The COMPETE Online Decision Entry System (CODES)," *Developments in Business Simulation and Experiential Learning*, Vol. 28, 188-91. Reprinted in the *Bernie Keys Library*, 2nd edition [Available from http://ABSEL.org]

_____, Mak Wai Keong, & Dean S. Roussos (2000). "Facilitating Learning in the New Millennium With The COMPETE Online Decision Entry System (CODES)," *Developments in Business Simulation and Experiential Learning*, Vol. 27, 250-1. Reprinted in the *Bernie Keys Library*, 1st edition [Available from http://ABSEL.org]

_____, Jan De Ryck and Mak Wai Keong (2003). "Interactive Online Positioning With the Web-based Product Positioning Map Graphics Package," *Developments in Business Simulation and Experiential Learning*, Vol. 30, 202-6. Reprinted in the *Bernie Keys Library*, 4th edition [Available from http://ABSEL.org]

_____, Jan De Ryck and Mak Wai Keong (2002). "Interactive Online Strategic Market Planning With the Web-based Boston Consulting Group (BCG) Matrix Graphics Package," *Developments in Business*

Simulation and Experiential Learning, Vol. 29, 140-2. Reprinted in the *Bernie Keys Library*, 3rd edition [Available from http://ABSEL.org]

Peach, Brian E. (1996). "Enhancing Simulation Learning Through Objectives and Decision Support Systems," *Developments in Business Simulation and Experiential Learning*, Vol. 23, 61-67. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

Perreault, William D., Jr. and E. Jerome McCarthy (1996). *Basic Marketing: A Global-Managerial Approach*, Chicago, IL: Irwin.

Schellenberger, Robert E. (1983). "MANSYM III Decision Support System Demonstration," *Developments in Business Simulation and Experiential Learning*, Vol. 10, 69-71. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

Shane, Barry and Jack Bailes (1986). "A Decision Support System For Capital Funds Forecasting," *Developments in Business Simulation and Experiential Learning*, Vol. 13, 216-220. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

Sherrell, Daniel, Kenneth R. Russ and Alvin C. Burns (1986). "Enhancing Mainframe Simulations via Microcomputers: Designing Decision Support Systems," *Developments in Business Simulation and Experiential Learning*, Vol. 13, 207-211. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

Sprague, Ralph H., Jr. (1980). "A Framework for the Development of Decision Support Systems," *Management Information Systems Quarterly*, 4 (December), 1-26.

Teach, Richard D. (1990). "Designing Business Simulations," in: Gentry, James W. (1990) ed., *Guide to Business Gaming and Experiential Learning*, Chapter 7, Association for Business Simulation and Experiential Learning (ABSEL), pp. 93-116. East Brunswick/Kogan Page, London: Nichols/GP Publishing.

Wingender, John and Jack Wurster (1987). "Oil And Gas Well Investment Analysis Using The Lotus 1-2-3 Decision Support System," *Developments in Business Simulation and Experiential Learning*, Vol. 14, 245-249. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]

Wolfe, Joseph and J. Gregg (1989). "On the Efficacy of Managerial Decision Support Systems in a Business Gaming Environment," *Proceedings of the International Simulation and Gaming Association*, 102-109.

Woodruff, Charles K. (1992). "A Graphics Application Extension For A Simulated Decision Support System Environment," *Developments in Business Simulation and Experiential Learning*, Vol. 18, 5-10. Reprinted in the *Bernie Keys Library*, 9th edition [Available from http://ABSEL.org]