ASSESSING COMPETITOR STRATEGIC BUSINESS UNITS WITH THE COMPETITOR ANALYSIS PACKAGE

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ABSTRACT

The Web-based Competitor Analysis Package enables competing participant teams to assess the strength of each element of the marketing mix for one or more strategic business units (SBUs) of one or more competitors during each decision period. This decision support package extracts the EPS of each competing firm, together with the price, quality, advertising media budget and copy used for each of the nine SBUs, as well as regional salesforce size, salary and commission for each company from the simulation results. Users can configure the package to analyze one or more SBUs of one or more competitors. The package ranks and color-codes each element of the marketing mix for the selected SBUs and competitors, and can be used to evaluate specific SBUs of specific competitors, implement the external analysis component of SWOT analysis, and/or develop a comprehensive strategic market plan.

INTRODUCTION

The Competitor Analysis Package is a decision support system that enables competing participant teams in the marketing simulation COMPETE (Faria, 1994, 2006) to identify and assess the relative strengths and weaknesses of each element of the marketing mix for each strategic business unit (SBU) of their competitor brand portfolios during each decision period. 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.

This Excel-based Competitor Analysis Package automatically extracts relevant company performance and marketing mix data for each SBU of each competitor via external links from the Excel-version of the COMPETE simulation results generated from the original dos-text based COMPETE simulation results. The Excel-version of the simulation results is uploaded to the COMPETE Online Decision Entry System (CODES) repository for subsequent access by competing participant teams. Only relevant data on the determinants of sales revenue are extracted from the simulation results. This decision support package saves 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 & Biggs, 1990; Teach, 1990; Gold & Pray, 1990; Wolfe & Gregg, 1989). In addition, the literature is replete with references to the use and impact of decision support systems with computer simulations (Affisco & Chanin, 1989, 1990; Burns & Bush, 1991; Cannon et al., 1993; Fritzsche et al., 1987; Grove et al., 1986; Halpin, 2006; Honaiser & Sauaia, 2006; Markulis & Strang, 1985; Mitri et al., 1998; Muhs & Callen, 1984; Nulsen et al., 1993, 1994; Palia, 1989, 1991, 2006; Peach, 1996; Schellenberger, 1983; Shane & Bailes, 1986; Sherrell et al., 1986; Wingender & 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 & 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 & 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 & Callen, 1984). Others have reported no support for the premise that DSS usage improves small group decision making effectiveness (Affisco & 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 & 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).

SIMULATION PERFORMANCE & PROFIT ANALYSIS

Several authors have investigated the relationship between game performance and use of DSSs (Keys & Wolfe, 1990) as well as other predictor variables such as (a) past academic performance (GPA) and academic ability of participants, and degree of planning and formal decision making by teams (Faria, 2000), (b) GPA and the use of DSSs (Keys & Wolfe, 1990), (c) age, gender, GPA and expected course grade (Badgett, Brenenstuhl & Marshall, 1978), (d) university GPA and academic major (Gosenpud & Washbush, 1991), (e) gender, GPA and course grade (Hornaday, 2001; Hornaday & Wheatley, 1986), (f) gender (Johnson, Johnson & Golden, 1997; Wood, 1987), (g) GPA, previous course grades, and course grade (Lynch & Michael, 1989), with conflicting results. These conflicting results led to the conclusion that no predictor variable consistently predicts simulation performance (Gosenpud, 1987).

Other authors have discussed the use of simulation profit analysis in advertising (Motes & Woodside, 1979), accounting (Bonczkowski, Gentry & Caldwell, 1979; Bradley & Murtuza, 1988; Goosen, 1974, 1990; Leftwich, 1974; Lord, 1975), business ethics (Schumann, Scott & Anderson, 1994); business management (Millers, 1986), finance (Leftwich, 1974), and production operations and management (Mukherjee & Wheatley, 1999) courses.

The primary purpose of this paper is to present a new user-centered learning tool that provides participant teams the opportunity to (a) assess the strengths and weaknesses of each element of the marketing mix for one or more SBUs in their brand portfolio and the brand portfolios of one or more of their competitors, (b) analyze the relative strengths and weaknesses of each competitor's brand portfolio as they perform the external analysis component of SWOT analysis, and (c) use the insights derived from their analysis of specific competing SBUs to develop a cogent and persuasive strategic market plan.

COMPETITOR ANALYSIS

Competitor analysis plays a central role in strategic market management (Aaker, 2014) and strategic market planning (Abell & Hammond, 1979). In strategic market management, competitor analysis is the second of four phases of External analysis which includes analyses of (a) customers (segments, needs, purchase motivations, and unmet needs), (b) competitors (identity, strategic groups, performance, image, objectives, strategies and weaknesses), (c) markets and submarkets (emerging submarkets, size, growth, profitability, entry barriers, cost structure, distribution systems, trends, and key success factors), and (d) environmental (such as technological, consumer, governmental, and economic) trends (Aaker, 2014).

USE IN STRATEGIC MARKET MANAGEMENT

The purpose of External analysis (which begins with customer analysis) in Strategic Market Management is to identify opportunities, threats (the O and T of traditional SWOT analysis), trends and strategic uncertainties. Competitor analysis, the second phase of External analysis, focuses on the identification of threats, opportunities, or strategic uncertainties created by emerging or potential competitor moves, weaknesses, or strengths. Competitor analysis begins with the identification of current and potential competitors based on (a) the degree to which they compete for a buyer's choice, or (b) strategic groups based on their competitive strategy. Once the competitors are identified, an attempt is made to better understand them and their strategies (Aaker, 2014).

Competitor identification can be facilitated by answering the following questions: Against whom do we usually compete? Who are our most intense competitors? Which companies are less intense but still serious competitors? Which competitors are makers of substitute products? Can these competitors be grouped into strategic groups on the basis of their assets, competencies, and or strategies? Who are the potential competitor entrants? What are their barriers to entry? Is there anything that can be done to discourage them? (Aaker, 2014).

Competitor evaluation can be facilitated by answering the following questions: What are their objectives and strategies? What is their level of commitment? What are their exit barriers? What is their cost structure? Do they have a cost advantage or disadvantage? What is their image and positioning strategy? Which are the most successful / unsuccessful competitors over time? Why? What are the strengths and weaknesses of each competitor or strategic group? What leverage points (or strategic weaknesses or customer problems or unmet needs) could competition exploit to enter the market or become more serious competitors? How strong or weak is each competitor with respect to their assets and competencies? (Aaker, 2014).

The Excel-based Competitor Analysis Package facilitates both competitor identification and evaluation. This decision support package extracts relevant company performance and marketing mix data for each SBU of each competitor via external links from the Excel-version of the COMPETE simulation results. Marketing mix data for each SBU include price, quality, advertising budget allocation by media, advertising copy message used for each of the nine strategic business units (SBUs), salesforce size, salary and commission used. The user can select one or more SBUs for one or more competitors for analysis. When prompted to do so, the package ranks and color codes each marketing mix variable for each competitor relative to other competing firms.

USE IN STRATEGIC MARKET PLANNING

Competitor evaluation is the third step in a six-step strategic market planning process used in product portfolio analysis. The heart of product portfolio analysis is the creation, interpretation and analysis of the BCG growth share matrix (GSM) and growth gain matrix (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 & Hammond, 1979; Day, 1986). 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 specific objectives and associated strategies and (6) check financial balance (Palia, 1991, 1995, 2002, 2010).

In order to evaluate competitors, the GSM and GGM displays are developed for each of the firm's major competitors. Each competitor's GSM and GGM displays are carefully studied to determine what each is doing. Are their strategies coherent? Which SBUs are cash cows, stars, problem children, and dogs? How close is the competitor's weighted average growth rate to its maximum sustainable growth rate? Interesting insights and potential weaknesses of competitors can be revealed. Next, the competitor's charts are compared with the firm's GSM and GGM displays taking one SBU at a time to evaluate competitive strength. This is especially important when market share increase is contemplated (Abell & Hammond, 1979).

Competitor analysis is crucial for sound strategy development. Yet, it is often the Achilles heel of strategic market planning, as it is often difficult and speculative. Although competitor GSM and GGMs are not as reliable as those for one's own firm, they usefully display the best information available about competitors. Consequently, many analysts are content to analyze easier internal issues. However, the web-based COMPETE PPA Graphics Package generates the GSM and GGM displays for each of the competing firms based on reliable, accurate and timely competitor data based on the simulation results (Palia, 1991).

The Excel-based Competitor Analysis Package facilitates competitor evaluation. This decision support package extracts relevant marketing mix data (for each competing firm) including price, quality, advertising budget allocation by media, advertising copy message used for each of the nine strategic business units (SBUs), as well as salesforce size, salary and commission used. When used together with the COMPETE PPA Graphics Package, the user can identify the leader and follower brands of each competitor, and investigate the relative strengths and weaknesses of each SBU relative to each competitor before deciding on the appropriate strategy (build share, hold share, harvest, or divest/withdraw) for each SBU and the appropriate marketing mix decisions.

USE IN SIMULATIONS

Simulation game participants use supply-based attributes such as size measured by earnings, market share, or sales volume to identify major competitors, and to use similarities in marketing strategy variables to identify direct competitors (Faria & Wellington, 2002). These attributes are consistent with attributes used by a group of experienced managers to identify competitors (Clark & Montgomery, 1999). Further, simulation participants use a separate set of criteria such as prices charged, advertising strategy, sales force and other elements of the marketing mix to analyze their competitors (Faria & Wellington, 2002).

Indeed, the simulation literature is replete with references to (a) competitor identification (Faria & Wellington, 2002; Gosen & Washbush, 2005), (b) analysis (Burns & Bush, 1991; Faria & Wellington, 2002; Fekula, 2008; Low et al., 1988; Sherrell et al., 1986), (c) actions (Sauaia & Kallas, 2003; Gosen & Washbush, 1999, 2005), (d) attributes (Burns & Sherrell, 1984), (e) behavior (Gold et al., 2013), (f) bidding (Sharda & Gentry, 1983), (g) information (Gold et al., 2013), (h) location (Burns & Sherrell, 1984), and (i) strategies (Dickinson & Faria, 1994).

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

EXHIBIT 1
COMPETITOR ANALYSIS WORKSHEET

Competitor Analysis - Microsoft Excel

TriniTech
Company 2
Period 6

Co.	EPS	SBU	PPA Typology	PPA Strategy	PPM Position	Price	Quality	BC $s	PRT $s	SP $s	Total $s	Copy	#	Salary	Comm.
		TST - 1	Select	Select	Select	$4,500	102	$160,000	$70,000	$90,000	$320,000	4	37		
		TST - 2	Select	Select	Select	$4,200	102	$120,000	$60,000	$120,000	$300,000	1	33		
		TST - 3	Select	Select	Select	$4,550	102	$120,000	$50,000	$100,000	$270,000	4	30		
		CVE - 1	Select	Select	Select	$470	101	$160,000	$60,000	$100,000	$320,000	4	37		
1	$(0.12)	CVE - 2	Select	Select	Select	$429	101	$150,000	$70,000	$80,000	$300,000	3	33	$4,000	3.0%
		CVE - 3	Select	Select	Select	$434	101	$160,000	$110,000	$80,000	$350,000	4	30		
		SSL - 1	Select	Select	Select	$55	100	$110,000	$90,000	$70,000	$270,000	4	37		
		SSL - 2	Select	Select	Select	$46	100	$100,000	$50,000	$120,000	$270,000	3	33		
		SSL - 3	Select	Select	Select	$51	100	$110,000	$50,000	$110,000	$270,000	4	30		
		TST - 1	Select	Select	Select	$4,530	102	$110,000	$80,000	$80,000	$270,000	3	37		
		TST - 2	Select	Select	Select	$4,370	102	$130,000	$80,000	$50,000	$260,000	4	34		
		TST - 3	Select	Select	Select	$4,570	102	$110,000	$40,000	$150,000	$300,000	3	30		
		CVE - 1	Select	Select	Select	$452	101	$150,000	$60,000	$110,000	$320,000	4	37		
2	$0.56	CVE - 2	Select	Select	Select	$435	101	$130,000	$70,000	$80,000	$280,000	3	34	$4,000	2.8%
		CVE - 3	Select	Select	Select	$443	101	$150,000	$40,000	$80,000	$270,000	4	30		
		SSL - 1	Select	Select	Select	$52	100	$170,000	$30,000	$80,000	$280,000	3	37		
		SSL - 2	Select	Select	Select	$50	100	$120,000	$30,000	$120,000	$270,000	4	34		
		SSL - 3	Select	Select	Select	$51	100	$110,000	$30,000	$140,000	$280,000	3	30		
		TST - 1	Select	Select	Select	$4,600	103	$90,000	$50,000	$20,000	$160,000	3	39		
		TST - 2	Select	Select	Select	$4,390	103	$90,000	$50,000	$40,000	$180,000	3	34		
		TST - 3	Select	Select	Select	$4,730	103	$40,000	$40,000	$80,000	$160,000	3	30		
		CVE - 1	Select	Select	Select	$450	101	$120,000	$70,000	$50,000	$240,000	4	39		
3	$0.21	CVE - 2	Select	Select	Select	$428	101	$100,000	$90,000	$60,000	$250,000	4	34	$4,100	3.0%
		CVE - 3	Select	Select	Select	$433	101	$100,000	$40,000	$60,000	$200,000	4	30		
		SSL - 1	Select	Select	Select	$52	100	$100,000	$50,000	$50,000	$200,000	3	39		
		SSL - 2	Select	Select	Select	$48	100	$100,000	$60,000	$40,000	$200,000	1	34		
		SSL - 3	Select	Select	Select	$50	100	$140,000	$30,000	$20,000	$190,000	3	30		
		TST - 1	Select	Select	Select	$4,500	102	$120,000	$50,000	$70,000	$240,000	3	42		
		TST - 2	Select	Select	Select	$4,350	102	$80,000	$50,000	$70,000	$200,000	3	39		
		TST - 3	Select	Select	Select	$4,490	102	$80,000	$50,000	$70,000	$200,000	3	36		
		CVE - 1	Select	Select	Select	$450	101	$100,000	$50,000	$60,000	$210,000	3	42		
4	$0.56	CVE - 2	Select	Select	Select	$430	101	$90,000	$50,000	$100,000	$240,000	3	39	$4,185	2.8%
		CVE - 3	Select	Select	Select	$440	101	$90,000	$50,000	$70,000	$210,000	3	36		
		SSL - 1	Select	Select	Select	$53	100	$120,000	$50,000	$50,000	$220,000	3	42		
		SSL - 2	Select	Select	Select	$50	100	$70,000	$50,000	$80,000	$200,000	3	39		
		SSL - 3	Select	Select	Select	$52	100	$80,000	$50,000	$110,000	$240,000	3	36		
		TST - 1	Select	Select	Select	$4,500	103	$130,000	$100,000	$100,000	$330,000	4	45		
		TST - 2	Select	Select	Select	$4,280	103	$50,000	$20,000	$30,000	$100,000	1	35		
		TST - 3	Select	Select	Select	$4,700	103	$140,000	$40,000	$70,000	$250,000	3	32		
		CVE - 1	Select	Select	Select	$450	102	$140,000	$60,000	$110,000	$310,000	3	45		
5	$1.00	CVE - 2	Select	Select	Select	$432	102	$100,000	$10,000	$70,000	$180,000	3	35	$4,000	0.3%
		CVE - 3	Select	Select	Select	$450	102	$150,000	$60,000	$90,000	$300,000	4	32		
		SSL - 1	Select	Select	Select	$54	100	$70,000	$40,000	$50,000	$160,000	3	45		
		SSL - 2	Select	Select	Select	$48	100	$70,000	$10,000	$90,000	$170,000	1	35		
		SSL - 3	Select	Select	Select	$50	100	$90,000	$30,000	$80,000	$200,000	3	32		

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. The teams use the COMPETE Online Decision Entry System (CODES) (Palia & Mak, 2001; Palia et al., 2000) to enter their decisions, retrieve their results, and download and use a wide array of marketing dss packages.

THE COMPETITOR ANALYSIS PACKAGE

The Web-based Competitor Analysis Package Version 2.0 is accessible online to competing participant teams in the marketing simulation COMPETE. It enables competing participant teams to assess the strengths and weaknesses of each strategic business unit (SBU) within their own and competitor brand portfolios during each decision period. The package automatically extracts data on each element of the marketing mix (SBU-specific price, quality index, broadcast advertising, print advertising, sales promotion and advertising copy, regional salesforce size, and company-wide salary and commission compensation) for all competing firms from the Excel version of the simulation results for a specific decision period.

The user can (a) select one or more competitors, (b) select one or more SBUs of the selected competitors to be analyzed, and (c) use the "Analyze" option to rank order and color code each element of the marketing mix for the selected SBUs of the selected competitors relative to corresponding SBUs for other competing firms in the industry. Then, the user can repeat the analysis for one or more other selected SBUs and competitors.

The Competitor Analysis Package (workbook) Version 2.0 is a zipped folder "Competitor Analysis.zip" which consists of an Excel workbook "Competitor Analysis.xlsm" (with external links to the COMPETE results (output) file Period.xls) and Period.xls Excel version of sample COMPETE output for a specified period. This Competitor Analysis.xlsm workbook consists of three worksheets. These include "Index", "Competitor Analysis", and "SBU options" worksheets. The Index worksheet summarizes the purpose and data inputs required. The Competitor Analysis worksheet extracts and presents the relevant performance and marketing mix data for all SBUs for all competing firms form the Excel version of the COMPETE simulation results for a specific decision period. The SBU options worksheet specifies the typology, and strategic and positioning options to be selected by the user for each SBU.

The Competitor Analysis worksheet consists of external links to the Excel version of the quarterly COMPETE output file "Period.xls". This Competitor Analysis worksheet extracts and displays the company name, company number, and decision period (quarter) number from the Excel version of the COMPETE results file "Period.xls" (see Exhibit 1). All cells containing data extracted from the simulation results are colored turquoise. The total advertising budget which is calculated from the broadcast, print and sales promotion budgets are

EXHIBIT 2
DATA EXTRACTION TABLE – COMPETITOR ANALYSIS WORKSHEET (MARKETING MIX 1)

Data Extraction from COMPETE Results Workbook Period.xls To Competitor Analysis Worksheet (Marketing Mix 1)						
COMPETE Competitor Analysis Worksheet			COMPETE Results Workbook Period.xls			
Account	Cell/s		Worksheet (Tab)	Page	Account	Cell Ref.
Company Name	A3	from ==>	Title	Title		C15
Company Number	A4	from ==>	Title	Title		C14
Period	A5	from ==>	Title	Title		C16
EPS - Company 1	B13	from ==>	EPS, Mkt%, SF Activity	8	EPS By Time Period	E9
EPS - Company 2	B22	from ==>	EPS, Mkt%, SF Activity	8	EPS By Time Period	E10
EPS - Company 3	B31	from ==>	EPS, Mkt%, SF Activity	8	EPS By Time Period	E11
EPS - Company 4	B40	from ==>	EPS, Mkt%, SF Activity	8	EPS By Time Period	E12
EPS - Company 5	B49	from ==>	EPS, Mkt%, SF Activity	8	EPS By Time Period	E13
TST - Reg. 1 Price - Co. 1,2,3,4,5	G9,G18,G27,G36,G45	from ==>	Forecast, Prices	9	Price By Prod. By Reg. By Co.	D32,D33,D34,D35,D36
TST - Reg. 2 Price - Co. 1,2,3,4,5	G10,G19,G28,G37,G46	from ==>	Forecast, Prices	9	Price By Prod. By Reg. By Co.	G32,G33,G34,G35,G36
TST - Reg. 3 Price - Co. 1,2,3,4,5	G11,G20,G29,G38,G47	from ==>	Forecast, Prices	9	Price By Prod. By Reg. By Co.	J32,J33,J34,J35,J36
CVE - Reg. 1 Price - Co. 1,2,3,4,5	G12,G21,G30,G39,G48	from ==>	Forecast, Prices	9	Price By Prod. By Reg. By Co.	E32,E33,E34,E35,E36
CVE - Reg. 2 Price - Co. 1,2,3,4,5	G13,G22,G31,G40,G49	from ==>	Forecast, Prices	9	Price By Prod. By Reg. By Co.	H32,H33,H34,H35,H36
CVE - Reg. 3 Price - Co. 1,2,3,4,5	G14,G23,G32,G41,G50	from ==>	Forecast, Prices	9	Price By Prod. By Reg. By Co.	K32,K33,K34,K35,K36
SSL - Reg. 1 Price - Co. 1,2,3,4,5	G15,G24,G33,G42,G51	from ==>	Forecast, Prices	9	Price By Prod. By Reg. By Co.	F32,F33,F34,F35,F36
SSL - Reg. 2 Price - Co. 1,2,3,4,5	G16,G25,G34,G43,G52	from ==>	Forecast, Prices	9	Price By Prod. By Reg. By Co.	I32,I33,I34,I35,I36
SSL - Reg. 3 Price - Co. 1,2,3,4,5	G17,G26,G35,G44,G53	from ==>	Forecast, Prices	9	Price By Prod. By Reg. By Co.	L32,L33,L34,L35,L36
TST - Reg. 1 Quality - Co. 1,2,3,4,5	H9,H18,H27,H36,H45	from ==>	Quality, Dollar Sales	14	Quality Index By Co. By Prod.	F9
TST - Reg. 2 Quality - Co. 1,2,3,4,5	H10,H19,H28,H37,H46	from ==>	Quality, Dollar Sales	14	Quality Index By Co. By Prod.	F9
TST - Reg. 3 Quality - Co. 1,2,3,4,5	G11,G20,G29,G38,G47	from ==>	Quality, Dollar Sales	14	Quality Index By Co. By Prod.	F9
CVE - Reg. 1 Quality - Co. 1,2,3,4,5	H12,H21,H30,H39,H48	from ==>	Quality, Dollar Sales	14	Quality Index By Co. By Prod.	F14
CVE - Reg. 2 Quality - Co. 1,2,3,4,5	H13,H22,H31,H40,H49	from ==>	Quality, Dollar Sales	14	Quality Index By Co. By Prod.	F14
CVE - Reg. 3 Quality - Co. 1,2,3,4,5	H14,H23,H32,H41,H50	from ==>	Quality, Dollar Sales	14	Quality Index By Co. By Prod.	F14
SSL - Reg. 1 Quality - Co. 1,2,3,4,5	H15,H24,H33,H42,H51	from ==>	Quality, Dollar Sales	14	Quality Index By Co. By Prod.	F19
SSL - Reg. 2 Quality - Co. 1,2,3,4,5	H16,H25,H34,H43,H52	from ==>	Quality, Dollar Sales	14	Quality Index By Co. By Prod.	F19
SSL - Reg. 3 Quality - Co. 1,2,3,4,5	H17,H26,H35,H44,H53	from ==>	Quality, Dollar Sales	14	Quality Index By Co. By Prod.	F19

colored light brown. In addition, the company number of the firm using the worksheet is flagged green (see Exhibit 1).

In order to compare the relative performance of the competing firms, the Competitor Analysis worksheet extracts and presents the earnings per share data for each company, as well as data on each element of the marketing mix for each SBU for each company. The broadcast, print and sales promotion budgets for each SBU (presented in $millions) in the Excel version of the simulation results are each multiplied by 1,000,000 and presented in dollars in the Competitor Analysis Worksheet. The total advertising budget for each SBU is calculated by adding the extracted and converted broadcast (BC), print (PRT), and sales promotion (SP) budgets.

Based on usage of the BCG Growth Share Matrix (GSM) and Growth Gain Matrix (GSM) generated for all companies by the Product Portfolio Analysis (PPA) package (Palia, 1995, 1996, 2010, 2012; Palia et al.,2002), the user can first select the typology of each SBU (Healthy Star – H*, Sick Star – S*, Healthy Problem Child – H?, Sick Problem Child – S?, Healthy Cash Cow – H$, Sick Cash Cow – S$, Healthy Dog – HX, or Sick Dog – SX) from drop windows provided for each SBU. Next, based on static, comparative static and dynamic analysis of the SBU portfolio, and a consideration of other factors (Palia, 1995, 1996, 2010, 2012; Palia et al., 2002), the user can select the recommended strategy for each SBU (build share (offense) – BS(O), build share (defense) – BS(D), hold share – HS, harvest – H, or divest/withdraw – D/W). Then, based on usage of the product positioning map generated for all nine SBUs by the Product Positioning Map (PPM) package (Palia, 1997, Palia et al. 2003, Palia & De Ryck, 2013), the user can select the current position of each SBU (premium, high value, penetration or rip-off quadrant).

The relevant data are extracted from the COMPETE Results Excel workbook Period.xls to the Competitor Analysis workbook as indicated in the Data Extraction Tables for the Competitor Analysis Worksheet (see Exhibits 2, 3 and 4). In each of the Data Extraction Tables, 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 Competitor Analysis worksheet table (on the left) in the Data Extraction Tables.

For instance, in the Data Extraction Table for the Competitor Analysis worksheet - Marketing Mix 1 (see Exhibit 2), the Earnings per Share EPS - Company 1 in a specific period in cell B13 on the Competitor Analysis worksheet in Exhibit 1 is extracted from cell E9 in the "EPS By Time Period" table on the "EPS, Mkt%, SF Activity" worksheet of the COMPETE results workbook Period.xls. Similarly, the TST – Region 1 Price for Companies 1, 2, 3, 4 and 5 in a specified period in cells G9, G18, G27, G36 and G45 on the Competitor Analysis worksheet in Exhibit 1 are extracted from cells D32, D33, D34, D35 and D36 respectively in the "Price By Product By Region By Company" table on the "Forecast, Prices" worksheet of the COMPETE results workbook. In addition, the TST – Region 1 Quality for Companies 1, 2, 3, 4 and 5 in a specified period in cells H9, H18, H27, H36 and H45 on the Competitor Analysis worksheet in Exhibit 1 are extracted from cells F9, F10, F11, F12 and F13 in the "Quality Index By Company By Product" table on the "Quality, Dollar Sales" worksheet of the COMPETE results workbook.

Next, in the Data Extraction Table for the Competitor Analysis worksheet – Marketing Mix 2 (see Exhibit 3), the TST – Region 1 BC (Broadcast Advertising) budget for Companies 1, 2, 3, 4 and 5 in a specified period in cells I9, I18, I27, I36 and

EXHIBIT 3
DATA EXTRACTION TABLE – COMPETITOR ANALYSIS WORKSHEET (MARKETING MIX 2)

Data Extraction from COMPETE Results Workbook Period.xls To Competitor Analysis Worksheet (Marketing Mix 2)

COMPETE Competitor Analysis Worksheet			COMPETE Results Workbook Period.xls			
Accounts	Cells		Worksheet (Tab)	Page	Account	Cell Refs.
TST - Reg. 1 BC - Co. 1,2,3,4,5	I9,I18,I27,I36,I45	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	E10,E13,E16,E19,E22(*1000000)
TST - Reg. 2 BC - Co. 1,2,3,4,5	I10,I19,I28,I37,I46	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	E11,E14,E17,E20,E23(*1000000)
TST - Reg. 3 BC - Co. 1,2,3,4,5	I11,I20,I29,I38,I47	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	E12,E15,E18,E21,E24(*1000000)
CVE - Reg. 1 BC - Co. 1,2,3,4,5	I12,I21,I30,I39,I48	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	H10,H13,H16,H16,H19(*1000000)
CVE - Reg. 2 BC - Co. 1,2,3,4,5	I13,I22,I31,I40,I49	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	H11,H14,H17,H20,H23(*1000000)
CVE - Reg. 3 BC - Co. 1,2,3,4,5	I14,I23,I32,I41,I50	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	H12,H15,H18,H21,H24(*1000000)
SSL - Reg. 1 BC - Co. 1,2,3,4,5	I15,I24,I33,I42,I51	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	K10,K13,K16,K19,K22(*1000000)
SSL - Reg. 2 BC - Co. 1,2,3,4,5	I16,I25,I34,I43,I52	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	K11,K14,K17,K20,K23(*1000000)
SSL - Reg. 3 BC - Co. 1,2,3,4,5	I17,I26,I35,I44,I53	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	K12,K15,K18,K21,K24(*1000000)
TST - Reg. 1 PRT - Co. 1,2,3,4,5	J9,J18,J27,J36,J45	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	F10,F13,F16,F19,F22(*1000000)
TST - Reg. 2 PRT - Co. 1,2,3,4,5	J10,J19,J28,J37,J46	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	F11,F14,F17,F20,F23(*1000000)
TST - Reg. 3 PRT - Co. 1,2,3,4,5	J11,J20,J29,J38,J47	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	F12,F15,F18,F21,F24(*1000000)
CVE - Reg. 1 PRT - Co. 1,2,3,4,5	J12,J21,J30,J39,J48	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	I10,I13,I16,I16,I19(*1000000)
CVE - Reg. 2 PRT - Co. 1,2,3,4,5	J13,J22,J31,J40,J49	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	I11,I14,I17,I20,I23(*1000000)
CVE - Reg. 3 PRT - Co. 1,2,3,4,5	J14,J23,J32,J41,J50	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	I12,I15,I18,I21,I24(*1000000)
SSL - Reg. 1 PRT - Co. 1,2,3,4,5	J15,J24,J33,J42,J51	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	L10,L13,L16,L19,L22(*1000000)
SSL - Reg. 2 PRT - Co. 1,2,3,4,5	J16,J25,J34,J43,J52	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	L11,L14,L17,L20,L23(*1000000)
SSL - Reg. 3 PRT - Co. 1,2,3,4,5	J17,J26,J35,J44,J53	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	L12,L15,L18,L21,L24(*1000000)
TST - Reg. 1 SP - Co. 1,2,3,4,5	K9,K18,K27,K36,K45	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	G10,G13,G16,G19,G22(*1000000)
TST - Reg. 2 SP - Co. 1,2,3,4,5	K10,K19,K28,K37,K46	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	G11,G14,G17,G20,G23(*1000000)
TST - Reg. 3 SP - Co. 1,2,3,4,5	K11,K20,K29,K38,K47	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	G12,G15,G18,G21,G24(*1000000)
CVE - Reg. 1 SP - Co. 1,2,3,4,5	K12,K21,K30,K39,K48	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	J10,J13,J16,J16,J19(*1000000)
CVE - Reg. 2 SP - Co. 1,2,3,4,5	K13,K22,K31,K40,K49	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	J11,J14,J17,J20,J23(*1000000)
CVE - Reg. 3 SP - Co. 1,2,3,4,5	K14,K23,K32,K41,K50	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	J12,J15,J18,J21,J24(*1000000)
SSL - Reg. 1 SP - Co. 1,2,3,4,5	K15,K24,K33,K42,K51	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	M10,M13,M16,M19,M22(*1000000)
SSL - Reg. 2 SP - Co. 1,2,3,4,5	K16,K25,K34,K43,K52	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	M11,M14,M17,M20,M23(*1000000)
SSL - Reg. 3 SP - Co. 1,2,3,4,5	K17,K26,K35,K44,K53	from ==>	Full Ad., Content	12	Ad Exp By Medium By Prod. By Reg.	M12,M15,M18,M21,M24(*1000000)

I45 on the Competitor Analysis worksheet in Exhibit 1 are extracted from cells E10, E13, E16, E19 and E22 respectively in the "Advertising Expenditures By Medium By Product By Region By Company (in Millions)" table on the "Full Ad., Content" worksheet of the COMPETE results workbook Period.xls. Similarly, the TST – Region 1 PRT (Print Advertising) budget for Companies 1, 2, 3, 4 and 5 in a specified period in cells J9, J18, J27, J36 and J45 on the Competitor Analysis worksheet in Exhibit 1 are extracted from cells F10, F13, F16, F19, and F22 respectively in the "Advertising Expenditures By Medium By Product By Region By Company (in Millions)" table on the "Full Ad., Content" worksheet of the COMPETE results workbook Period.xls. In addition, the TST – Region 1 SP (Sales Promotion) budget for Companies 1, 2, 3, 4 and 5 in a specified period in cells K9, K18, K27, K36 and K45 on the Competitor Analysis worksheet in Exhibit 1 are extracted from cells G10, G13, G16, G19, and G22 respectively in the "Advertising Expenditures By Medium By Product By Region By Company (in Millions)" table on the "Full Ad., Content" worksheet of the COMPETE results workbook Period.xls. Since the broadcast (BC), PRT (print) and SP (Sales Promotion) budgets are reported in Millions in the COMPETE results workbook Period.xls, they are converted to dollar budgets by multiplying each budget by 1,000,000 in the Competitor Analysis worksheet (see Exhibit 1).

Further, in the Data Extraction Table for the Competitor Analysis worksheet – Marketing Mix 3 (see Exhibit 4), the TST - Region 1 Advertising Copy used by Companies 1, 2, 3, 4 and 5 in a specified period in cells M9, M18, M27, M36 and M45 on the Competitor Analysis worksheet in Exhibit 1 are extracted from cells D31, D32, D33, D34 and D35 respectively in the "Ad Content By Product By Region" table on the "Full Ad, Content" worksheet of the COMPETE results workbook Period.xls. The TST - Region 1 Salesforce used by Companies 1, 2, 3, 4 and 5 in cells N9, N18, N27, N36, and N45 on the Competitor Analysis worksheet in Exhibit 1 are extracted from cells D19, D20, D21, D22 and D23 respectively in the "Salesforce Size By Region By Company" table on the "Salesforce, Salaries" worksheet of the COMPETE results workbook. Finally, the company-wide Salesforce Salary and Salesforce Commission used by Company 1 in a specified period in cells O13 and P13 respectively on the Competitor Analysis worksheet in Exhibit 1 are extracted from cells F35 and E35 respectively in the "Commission Rate and Salary By Company" table on the "Salesforce, Salaries" worksheet of the COMPETE results workbook.

In summary, the Competitor Analysis worksheet (see Exhibit 1) extracts and presents (a) the Earnings per Share, (b) salesforce salary and commission (company-wide decisions), (c) quality (product-specific attribute), (d) salesforce size (region-specific decisions), (e) price, broadcast (BC), print (P) and sales promotion (SP) media-specific advertising $s (SBU-specific decisions), and (f) calculates, the total advertising budget (sum of broadcast, print and sales promotion media decisions) for each SBU of all competing firms from the COMPETE results workbook Period.xls. Further, the Competitor Analysis worksheet extracts the name, company number and period number at the top of the worksheet. Finally, the company number of the team using the worksheet is flagged (light green cell background fill) in order to facilitate competitor analysis (see Exhibit 1). The use of external links ensures relevant data are extracted from relevant sources (statements) in the simulation results and precludes data entry error.

EXHIBIT 4
DATA EXTRACTION TABLE – COMPETITOR ANALYSIS WORKSHEET (MARKETING MIX 3)

Data Extraction from COMPETE Results Workbook Period.xls To Competitor Analysis Worksheet (Marketing Mix 3)						
COMPETE Competitor Analysis Worksheet			COMPETE Results Workbook Period.xls			
Accounts	Cell/s		Worksheet (Tab)	Page	Account	Cell Ref/s.
TST - Reg. 1 Copy - Co. 1,2,3,4,5	M9,M18,M27,M36,M45	from ==>	Full Ad., Content	12	Ad Content By Product By Region	D31,D32,D33,D34,D35
TST - Reg. 2 Copy - Co. 1,2,3,4,5	M10,M19,M28,M37,M46	from ==>	Full Ad., Content	12	Ad Content By Product By Region	G31,G32,G33,G34,G35
TST - Reg. 3 Copy - Co. 1,2,3,4,5	M11,M20,M29,M38,M47	from ==>	Full Ad., Content	12	Ad Content By Product By Region	J31,J32,J33,J34,J35
CVE - Reg. 1 Copy - Co. 1,2,3,4,5	M12,M21,M30,M39,M48	from ==>	Full Ad., Content	12	Ad Content By Product By Region	E31,E32,E33,E34,E35
CVE - Reg. 2 Copy - Co. 1,2,3,4,5	M13,M22,M31,M40,M49	from ==>	Full Ad., Content	12	Ad Content By Product By Region	H31,H32,H33,H34,H35
CVE - Reg. 3 Copy - Co. 1,2,3,4,5	M14,M23,M32,M41,M50	from ==>	Full Ad., Content	12	Ad Content By Product By Region	K31,K32,K33,K34,K35
SSL - Reg. 1 Copy - Co. 1,2,3,4,5	M15,M24,M33M42,M51	from ==>	Full Ad., Content	12	Ad Content By Product By Region	F31,F32,F33,F34,F35
SSL - Reg. 2 Copy - Co. 1,2,3,4,5	M16,M25,M34,M43,M52	from ==>	Full Ad., Content	12	Ad Content By Product By Region	I31,I32,I33,I34,I35
SSL - Reg. 3 Copy - Co. 1,2,3,4,5	M17,M26,M35,M44,M53	from ==>	Full Ad., Content	12	Ad Content By Product By Region	L31,L32,L33,L34,L35
TST - Reg. 1 Salesforce - Co. 1,2,3,4,5	N9,N18,N27,N36,N45	from ==>	Salesforce, Salaries	10	Salesforce Size By Region By Co.	D19,D20,D21,D22,D23
TST - Reg. 2 Salesforce - Co. 1,2,3,4,5	N10,N19,N28,N37,N46	from ==>	Salesforce, Salaries	10	Salesforce Size By Region By Co.	E19,E20,E21,E22,E23
TST - Reg. 3 Salesforce - Co. 1,2,3,4,5	N11,N20,N29,N38,N47	from ==>	Salesforce, Salaries	10	Salesforce Size By Region By Co.	F19,F20,F21,F22,F23
CVE - Reg. 1 Salesforce - Co. 1,2,3,4,5	N12,N21,N30,N39,N48	from ==>	Salesforce, Salaries	10	Salesforce Size By Region By Co.	D19,D20,D21,D22,D23
CVE - Reg. 2 Salesforce - Co. 1,2,3,4,5	N13,N22,N31,N40,N49	from ==>	Salesforce, Salaries	10	Salesforce Size By Region By Co.	E19,E20,E21,E22,E23
CVE - Reg. 3 Salesforce - Co. 1,2,3,4,5	N14,N23,N32,N41,N50	from ==>	Salesforce, Salaries	10	Salesforce Size By Region By Co.	F19,F20,F21,F22,F23
SSL - Reg. 1 Salesforce - Co. 1,2,3,4,5	N15,N24,N33N42,N51	from ==>	Salesforce, Salaries	10	Salesforce Size By Region By Co.	D19,D20,D21,D22,D23
SSL - Reg. 2 Salesforce - Co. 1,2,3,4,5	N16,N25,N34,N43,N52	from ==>	Salesforce, Salaries	10	Salesforce Size By Region By Co.	E19,E20,E21,E22,E23
SSL - Reg. 3 Salesforce - Co. 1,2,3,4,5	N17,N26,N35,N44,N53	from ==>	Salesforce, Salaries	10	Salesforce Size By Region By Co.	F19,F20,F21,F22,F23
Salesforce Salary - Co. 1	O13	from ==>	Salesforce, Salaries	10	Commission Rate and Salary By Co.	F35
Salesforce Salary - Co. 2	O22	from ==>	Salesforce, Salaries	10	Commission Rate and Salary By Co.	F36
Salesforce Salary - Co. 3	O31	from ==>	Salesforce, Salaries	10	Commission Rate and Salary By Co.	F37
Salesforce Salary - Co. 4	O40	from ==>	Salesforce, Salaries	10	Commission Rate and Salary By Co.	F38
Salesforce Salary - Co. 5	O49	from ==>	Salesforce, Salaries	10	Commission Rate and Salary By Co.	F39
Salesforce Commission - Co. 1	P13	from ==>	Salesforce, Salaries	10	Commission Rate and Salary By Co.	E35
Salesforce Commission - Co. 2	P22	from ==>	Salesforce, Salaries	10	Commission Rate and Salary By Co.	E36
Salesforce Commission - Co. 3	P31	from ==>	Salesforce, Salaries	10	Commission Rate and Salary By Co.	E37
Salesforce Commission - Co. 4	P40	from ==>	Salesforce, Salaries	10	Commission Rate and Salary By Co.	E38
Salesforce Commission - Co. 5	P49	from ==>	Salesforce, Salaries	10	Commission Rate and Salary By Co.	E39

The Competitor Analysis Package Version 2.0 enables the competing teams to (a) monitor company and SBU-specific performance of all competing firms, (b) identify relative strengths and weaknesses of each element of the marketing mix for each SBU of all competing firms, and (c) implement the competitor analysis component of external analysis (the O (opportunities) and T (threats) of traditional SWOT analysis in strategic market management), In addition, this package enables competing teams to evaluate competitors (step 4 of the strategic market planning process) in order to develop a cogent and persuasive strategic market plan.

A tab labeled "Compete" at the top of the Competitor Analysis worksheet was developed using the Custom UI Editor (http://openxmldeveloper.org/blog/b/openxmldeveloper/ archive/2009/08/07/7293.aspx). This "Compete" tab contains three buttons: Configure, Analyze and Clear which are meant to be used in this order. When selected, this tab enables the user to (a) configure the analysis, (b) analyze the selected competitors and SBUs, and (c) clear the worksheet for subsequent re-configuration and analysis. When the "Configure" button is selected, the user can select one or more competitors and one or more SBUs to be analyzed (see Exhibit 5). The user company is pre-selected and flagged light-green by default in order to enable the user to analyze one or more SBUs for one or more specific competitors relative to their own SBU/ s. Next, when the "Analyze" button is selected, each element of the marketing mix (column) for a specific SBU (row) is ranked relative to corresponding SBUs for the pre-selected competitors. The ranks are color-coded with Excel-recognized colors in order to facilitate analysis. For instance, a cell-fill color of bright green signifies rank 1 (lowest SBU price, largest SBU advertising media budget, largest regional salesforce size, highest product quality index, highest company-wide salesforce salary and commission). Rank 2 is colored gold, rank 3 is colored light orange, rank 4 is colored orange, and rank 5 is colored red (see Exhibit 6). Only those companies and SBUs selected when configuring a new analysis on the "Compare Companies" pop-up window are color-coded. The "Clear" button enables the user to reset the worksheet for subsequent analysis of other competitors and/or SBUs. This "Clear" button should be selected before configuring a new analysis and prior to exiting the program.

The web-based Competitor Analysis Package Version 2.0 is accessible online to competing participant teams in the marketing simulation COMPETE. The Competitor Analysis Package Version 2.0 is a zipped folder Competitor Analysis.zip that consists of an Excel workbook file Competitor.xlsm with external links to the Excel version of sample COMPETE results (output) Period.xls for a specific period.

EXHIBIT 5
CONFIGURE OPTION – COMPARE COMPANIES POP-UP WINDOW BLANK

COMPETITOR ANALYSIS
PACKAGE PROCESS

First, the user downloads and unzips the Competitor Analysis.zip folder for a specific period. Next, the user logs in to CODES and downloads, renames and saves the Excel version of results for a specific decision period (quarter) as Period.xls in the unzipped "C:\Competitor Analysis" directory. Then, the user opens and updates the Competitor Analysis.xlsm workbook with data extracted via external links from the Period.xls file.

Next, the user selects the Compete tab at the top of the Competitor Analysis worksheet. This reveals three buttons "Configure," "Analyze" and "Clear" at the top left of the worksheet. The "Configure" option launches a "Compare Companies" pop-up window which enables the user to select one or more companies and one or more SBUs for subsequent analysis. Then, the user selects the "Analyze" option to rank and color code each element of the marketing mix for each of the selected companies and SBUs. Later, the user selects the "Clear" option to reset the worksheet and revert to the original display for subsequent analysis of other competitors.

SPECIFIC COMPETITOR ANALYSIS PROCESS

For example, the executives of one of the competing participant teams TriniTech (Company 2) first use the Competitor Analysis package to analyze three specific SBUs of one competitor. First, they use the "Configure" option to select three specific SBUs (TST-Region 1, CVE-Region 2, and SSL-Region 3) of Company 1 in the "Compare Companies" pop-up window during Period 6 (see Exhibit 7). Next, they select the "Analyze" option to rank order and color-code the rankings of each element of the marketing mix only for the three selected SBUs both for the selected company 1 as well as their own company.

The resulting Competitor Analysis worksheet (see Exhibit 8) indicates (on the left) that Company 1's earnings per share of $0.12 is less than the leading $1.00 earnings per share of the market leader Company 5. The highlighted cells indicate that Company 1's TST (Total Spectrum Television) - Region 1 has the lowest price ($4,500), highest broadcast (BC) advertising budget ($160,000), and highest salesforce commission (3.0%), all colored bright green signifying 1st rank (see row 1). Yet, their TST – Region 1 has a 3rd ranked sales promotion (SP) advertising budget ($90,000) as well as total advertising budget ($320,000), all colored light orange. In addition, their TST – Region 1 has relatively weak (4th ranked in orange) quality index (102), print (PRT) advertising budget ($70,000), regional salesforce size (37) and salesforce salary ($4,000). Finally, company 1's TST – Region 1 does not have any 5th ranked (in red) elements of the marketing mix (see Exhibit 7). The Advertising Copy column is not ranked as the number in each row is the advertising copy code that denotes the advertising message used (1=low price, 2=high quality, 3=product features, 4=customer benefits, 5=warranty, service, convenience). Then,

EXHIBIT 6
ANALYZE OPTION – COLOR-CODED COMPETITOR ANALYSIS WORKSHEET

EXHIBIT 7
CONFIGURE OPTION – TST-R1, CVE-R2 AND SSL-R3 FOR COMPANY 1 SELECTED

EXHIBIT 8
COMPETITOR ANALYSIS WORKSHEET – SELECTED SBUS FOR COMPANY 1

Competitor Analysis

TriniTech
Company 2
Period 6

Co.	EPS	SBU	PPA Typology	PPA Strategy	PPM Position	Price	Quality	BC $s	PRT $s	SP $s	Total $s	Copy	#	Salary	Comm.
		TST - 1	Select	Select	Select	$4,500	102	$160,000	$ 70,000	$ 90,000	$ 320,000	4	37		
		TST - 2	Select	Select	Select	$4,200	102	$120,000	$ 60,000	$120,000	$ 300,000	1	33		
		TST - 3	Select	Select	Select	$4,550	102	$120,000	$ 50,000	$100,000	$ 270,000	4	30		
		CVE - 1	Select	Select	Select	$ 470	101	$160,000	$ 60,000	$100,000	$ 320,000	4	37		
1	$(0.12)	CVE - 2	Select	Select	Select	$ 429	101	$150,000	$ 70,000	$ 80,000	$ 300,000	3	33	$4,000	3.0%
		CVE - 3	Select	Select	Select	$ 434	101	$160,000	$ 110,000	$ 80,000	$ 350,000	4	30		
		SSL - 1	Select	Select	Select	$ 55	100	$110,000	$ 90,000	$ 70,000	$ 270,000	4	37		
		SSL - 2	Select	Select	Select	$ 46	100	$100,000	$ 50,000	$120,000	$ 270,000	3	33		
		SSL - 3	Select	Select	Select	$ 51	100	$110,000	$ 50,000	$110,000	$ 270,000	4	30		
		TST - 1	Select	Select	Select	$4,530	102	$110,000	$ 80,000	$ 80,000	$ 270,000	3	37		
		TST - 2	Select	Select	Select	$4,370	102	$130,000	$ 80,000	$ 50,000	$ 260,000	4	34		
		TST - 3	Select	Select	Select	$4,570	102	$110,000	$ 40,000	$150,000	$ 300,000	3	30		
		CVE - 1	Select	Select	Select	$ 452	101	$150,000	$ 60,000	$110,000	$ 320,000	4	37		
2	$ 0.56	CVE - 2	Select	Select	Select	$ 435	101	$130,000	$ 70,000	$ 80,000	$ 280,000	3	34	$4,000	2.8%
		CVE - 3	Select	Select	Select	$ 443	101	$150,000	$ 40,000	$ 80,000	$ 270,000	4	30		
		SSL - 1	Select	Select	Select	$ 52	100	$170,000	$ 30,000	$ 80,000	$ 280,000	3	37		
		SSL - 2	Select	Select	Select	$ 50	100	$120,000	$ 30,000	$120,000	$ 270,000	4	34		
		SSL - 3	Select	Select	Select	$ 51	100	$110,000	$ 30,000	$140,000	$ 280,000	3	30		

the executives of TriniTech select the "Clear" option to reset the worksheet and revert to the original display for subsequent analysis of other competitors.

EXTERNAL (SWOT) ANALYSIS PROCESS

Later, TriniTech (Company 2) executives implement the competitor analysis component of external analysis (the O (opportunities) and T (threats) of traditional SWOT analysis in strategic market management). They use the "Configure" option to select all nine SBUs of all four competitors 1, 3, 4 and 5 in the "Compare Companies" pop-up window (see Exhibit 9). Next, they select the "Analyze" option to rank order and color-code the rankings of each element of the marketing mix for all nine SBUs of all four competitors as well as their own company.

The resulting Competitor Analysis worksheet (See Exhibit 10) ranks and color-codes each element of the marketing mix of all four competitors as well as their own company. This comprehensive display will enable the executives to (a) determine the relative strengths and weaknesses of each element of the marketing mix of each competitor, (b) organize and present the relative strengths and weaknesses of each competitor in their competitor analysis component of the external analysis (customer, competitor, market and environment analyses) section of their strategic (SWOT) analysis.

STRATEGIC MARKET PLANNING PROCESS

Subsequently, TriniTech (Company 2) executives use the Competitor Analysis package to implement the six-step strategic market plan process. They check the internal balance (step 1) and trends in their own brand portfolio (step 2) and the brand portfolios of their competitors (step 3) using the growth share matrix and growth gain matrix displays of the Product Portfolio Analysis (PPA) graphics package. Based on this analysis, they select the PPA typology and recommended strategy for each SBU from the respective drop window lists. For instance, they select the H? for the TST-Region 1 typology for Company 1 to designate this SBU as a healthy problem child (question mark) with a BS(O) build share (on offense) recommended strategy (see Exhibit 11, row 1).

Then, they check the position of each SBU using the Product Positioning Map (PPM) graphics package and select the PPM position for each SBU from the respective drop window lists. For instance, they select the "Penetration" quadrant position for the TST-Region for Company 1 (see Exhibit 10, row 1). Next, they consider other internal and external factors not captured in the growth share and growth gain matrices (step 4) and develop a tentative strategic market plan (step 5) matching resource allocation with SBU potential.

During this penultimate step 5, the executives can assess the relative strengths and weaknesses of SBUs with promising potential such as the TST-Region 1, CVE-Region 2, and SSL-Region 3 (for each competitor) before deciding to allocate

EXHIBIT 9
CONFIGURE OPTION – ALL 9 SBUS FOR ALL FOUR COMPETITORS SELECTED

EXHIBIT 10
COMPETITOR ANALYSIS WORKSHEET – ALL SBUS FOR ALL COMPETITORS

Competitor Analysis

TriniTech
Company 2
Period 6

Co.	EPS	SBU	PPA Typology	Strategy	PPM Position	Price	Quality	BC $s	PRT $s	SP $s	Total $s	Copy	#	Salary	Comm.
		TST - 1	H?	BS(O)	Penetration	$4,500	102	$160,000	$70,000	$90,000	$320,000	4	37		
		TST - 2	Select	Select	Select	$4,200	102	$120,000	$60,000	$120,000	$300,000	1	33		
		TST - 3	Select	Select	Select	$4,550	102	$120,000	$50,000	$100,000	$270,000	4	30		
		CVE - 1	Select	Select	Select	$470	101	$160,000	$60,000	$100,000	$320,000	4	37		
1	$(0.12)	CVE - 2	Select	Select	Select	$429	101	$150,000	$70,000	$80,000	$300,000	3	33	$4,000	3.0%
		CVE - 3	Select	Select	Select	$434	101	$160,000	$110,000	$80,000	$350,000	4	30		
		SSL - 1	Select	Select	Select	$55	100	$110,000	$90,000	$70,000	$270,000	4	37		
		SSL - 2	Select	Select	Select	$46	100	$100,000	$50,000	$120,000	$270,000	3	33		
		SSL - 3	Select	Select	Select	$51	100	$110,000	$50,000	$110,000	$270,000	4	30		
		TST - 1	Select	Select	Select	$4,530	102	$110,000	$80,000	$80,000	$270,000	3	37		
		TST - 2	Select	Select	Select	$4,370	102	$130,000	$80,000	$50,000	$260,000	4	34		
		TST - 3	Select	Select	Select	$4,570	102	$110,000	$40,000	$150,000	$300,000	3	30		
		CVE - 1	Select	Select	Select	$452	101	$150,000	$60,000	$110,000	$320,000	4	37		
2	$0.56	CVE - 2	Select	Select	Select	$435	101	$130,000	$70,000	$80,000	$280,000	3	34	$4,000	2.8%
		CVE - 3	Select	Select	Select	$443	101	$150,000	$40,000	$80,000	$270,000	4	30		
		SSL - 1	Select	Select	Select	$52	100	$170,000	$30,000	$80,000	$280,000	3	37		
		SSL - 2	Select	Select	Select	$50	100	$120,000	$30,000	$120,000	$270,000	4	34		
		SSL - 3	Select	Select	Select	$51	100	$110,000	$30,000	$140,000	$280,000	3	30		
		TST - 1	Select	Select	Select	$4,600	103	$90,000	$50,000	$20,000	$160,000	3	39		
		TST - 2	Select	Select	Select	$4,390	103	$90,000	$50,000	$40,000	$180,000	3	34		
		TST - 3	Select	Select	Select	$4,730	103	$40,000	$40,000	$80,000	$160,000	3	30		
		CVE - 1	Select	Select	Select	$450	101	$120,000	$70,000	$50,000	$240,000	4	39		
3	$0.21	CVE - 2	Select	Select	Select	$428	101	$100,000	$90,000	$60,000	$250,000	4	34	$4,100	3.0%
		CVE - 3	Select	Select	Select	$433	101	$100,000	$40,000	$60,000	$200,000	4	30		
		SSL - 1	Select	Select	Select	$52	100	$100,000	$50,000	$50,000	$200,000	3	39		
		SSL - 2	Select	Select	Select	$48	100	$100,000	$60,000	$40,000	$200,000	1	34		
		SSL - 3	Select	Select	Select	$50	100	$140,000	$30,000	$20,000	$190,000	3	30		
		TST - 1	Select	Select	Select	$4,500	102	$120,000	$50,000	$70,000	$240,000	3	42		
		TST - 2	Select	Select	Select	$4,350	102	$80,000	$50,000	$70,000	$200,000	3	39		
		TST - 3	Select	Select	Select	$4,490	102	$80,000	$50,000	$70,000	$200,000	3	36		
		CVE - 1	Select	Select	Select	$450	101	$100,000	$50,000	$60,000	$210,000	3	42		
4	$0.56	CVE - 2	Select	Select	Select	$430	101	$90,000	$50,000	$100,000	$240,000	3	39	$4,185	2.8%
		CVE - 3	Select	Select	Select	$440	101	$90,000	$50,000	$70,000	$210,000	3	36		
		SSL - 1	Select	Select	Select	$53	100	$120,000	$50,000	$50,000	$220,000	3	42		
		SSL - 2	Select	Select	Select	$50	100	$70,000	$50,000	$80,000	$200,000	3	39		
		SSL - 3	Select	Select	Select	$52	100	$80,000	$50,000	$110,000	$240,000	3	36		
		TST - 1	Select	Select	Select	$4,500	103	$130,000	$100,000	$100,000	$330,000	4	45		
		TST - 2	Select	Select	Select	$4,280	103	$50,000	$20,000	$30,000	$100,000	1	35		
		TST - 3	Select	Select	Select	$4,700	103	$140,000	$40,000	$70,000	$250,000	3	32		
		CVE - 1	Select	Select	Select	$450	102	$140,000	$60,000	$110,000	$310,000	3	45		
5	$1.00	CVE - 2	Select	Select	Select	$432	102	$100,000	$10,000	$70,000	$180,000	3	35	$4,000	0.3%
		CVE - 3	Select	Select	Select	$450	102	$150,000	$60,000	$90,000	$300,000	4	32		
		SSL - 1	Select	Select	Select	$54	100	$70,000	$40,000	$50,000	$160,000	3	45		
		SSL - 2	Select	Select	Select	$48	100	$70,000	$10,000	$90,000	$170,000	1	35		
		SSL - 3	Select	Select	Select	$50	100	$90,000	$30,000	$80,000	$200,000	3	32		

resources to these SBUs in their own portfolio in order to build share, hold share, harvest or divest/withdraw each SBU. Accordingly, they check the corresponding SBUs (such as TST-Region 1, CVE-Region 2 and SSL-Region 3) for each competitor to determine whether their own SBUs are competitive before finalizing their own strategic market plan.

STRENGTHS AND LIMITATIONS

The Competitor Analysis package can be used to: (a) assess the strengths and weaknesses of specific competitors and SBUs, (b) implement an external analysis as part of a SWOT analysis, and (c) evaluate competitors and develop a strategic market plan.

Company and SBU-specific competitor analysis can help management identify (a) the relative strengths and weaknesses of each element of the competitors' marketing mix, and (b) the primary reasons for lack of contribution to margin of poorly of SBUs. After they identify relatively unprofitable SBUs, and understand the primary reasons for lack of market share and/or profitability, marketing managers can use the insight derived to take appropriate corrective action.

Positive anecdotal student feedback on Competitor Analysis Package Version 1 was received from undergraduate students at the end of the Spring 2014 semester. Some undergraduate students reported that the decision support packages were very useful and helpful in understanding the determinants of market share and profitability. They indicated that the automatic extraction feature saved a "LOT" of time instead of having to type in all the numbers. They hoped it would continue to be used in the future as it definitely made a difference.

The Online Competitor Analysis Package has some limitations. First, some of the variables extracted from the COMPETE results are broken down by (a) SBU (price, advertising media budgets), (b) product (Quality), (c) region (salesforce size), and company-wide (salesforce salary and commission). These data reporting limitations may not accurately reflect the emphasis that management decides to give each of the nine SBUs in their marketing program. In addition, if the firm does not order the necessary market research reports, the required information will be missing and not available for extraction from the Excel version of the COMPETE results Period.xls file. Further, the package does not capture the interaction effects among individual elements of the marketing mix for a specific SBU.

Despite these limitations, the Competitor Analysis 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 competitor analysis, SWOT analysis, and strategic market planning, and actualize the learning potential of the Competitor Analysis 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 or presentation, and (c) test students on their understanding of the underlying concepts at the end of the semester.

CONCLUSION

The Web-based Competitor Analysis Package is a user-centered learning tool that helps to prepare students for marketing decision-making responsibilities in their future careers. The package enables users to apply competitor analysis, SWOT analysis, and strategic market planning, and determine whether each SBU in their brand portfolio is contributing to the overall company profit or loss. Participants use the Competitor Analysis Package to assess the relative strengths and weaknesses of the marketing mix of each of their competitors. This Web-based Competitor Analysis Package facilitates the integration of computers, the Internet and the World Wide Web into the marketing curriculum.

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