

# REPOSITIONING BRANDS WITH THE WEB-BASED PRODUCT POSITIONING MAP GRAPHICS PACKAGE

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## ABSTRACT

*The Web-based Product Positioning Map (PPM) Version 2.0 graphics package enables competing participant teams to generate product positioning maps for each of their nine strategic business units (SBUs) based on simulation results for each decision period. Participants can selectively generate product positioning maps for competing brands for the current period and brand trajectories for every period, every two periods, or every four periods till the current period. Next, participants use sample VALS2 data to identify potential heavy-user segments and to study their VALS psychographic profiles and purchase motivations. Then, they supplement the psychographic profiles with purchase and media behavior information based on external research, decide whether the target segments are price-, quality- or value-conscious, and reposition their brands relative to competing brands through appropriate marketing strategies. Based on reviewer feedback, an online survey of participants at the end of the Fall 2012 semester revealed that the PPM Version 2.0 Package is easy to use and helpful in identifying the current position of each of their SBUs relative to competitor brands. Participants indicated that the PPM Package adds substantial value to their Strategic Market Planning and Marketing Strategy learning experience.*

## INTRODUCTION

The Product Positioning Map (PPM) Version 2.0 graphics package is an interactive online market segmentation analysis and positioning graphics decision support package that constitutes part of a marketing decision support system (DSS). This interactive online graphics package enables competing participant teams in the marketing simulation COMPETE (Faria 2006) to generate product positioning maps for each of their nine strategic business units (SBUs) based on simulation results for each decision period. These nine SBUs offer a specific product in a specific region, and have specific target markets with specific needs and purchase motivations, a specific set of strategies, and face a specific set of competitors with specific competing strategies.

Participants with Web-access can use this interactive online package to selectively generate product positioning

maps for competing brands for the current period, as well as brand trajectories for every period, every two periods, or every four periods till the current period. They use the current period plots for each of the nine SBUs to determine the current price-quality position of their brands. Next, they use sample VALS2 psycho-demo-graphic segmentation data to identify potential heavy-user segments based on their VALS2 indices. Then, they study the VALS2 psychographic profiles and purchase motivations of the identified target segments. Later, they supplement the psychographic profiles with purchase and media behavior information based on external research, decide whether the target segments are price-, quality- or value-conscious, and reposition their brands relative to competing brands through appropriate marketing strategies. Further, participants can use the trend plots to identify competitor brand trajectories and positioning trends.

## 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. 1993, 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).

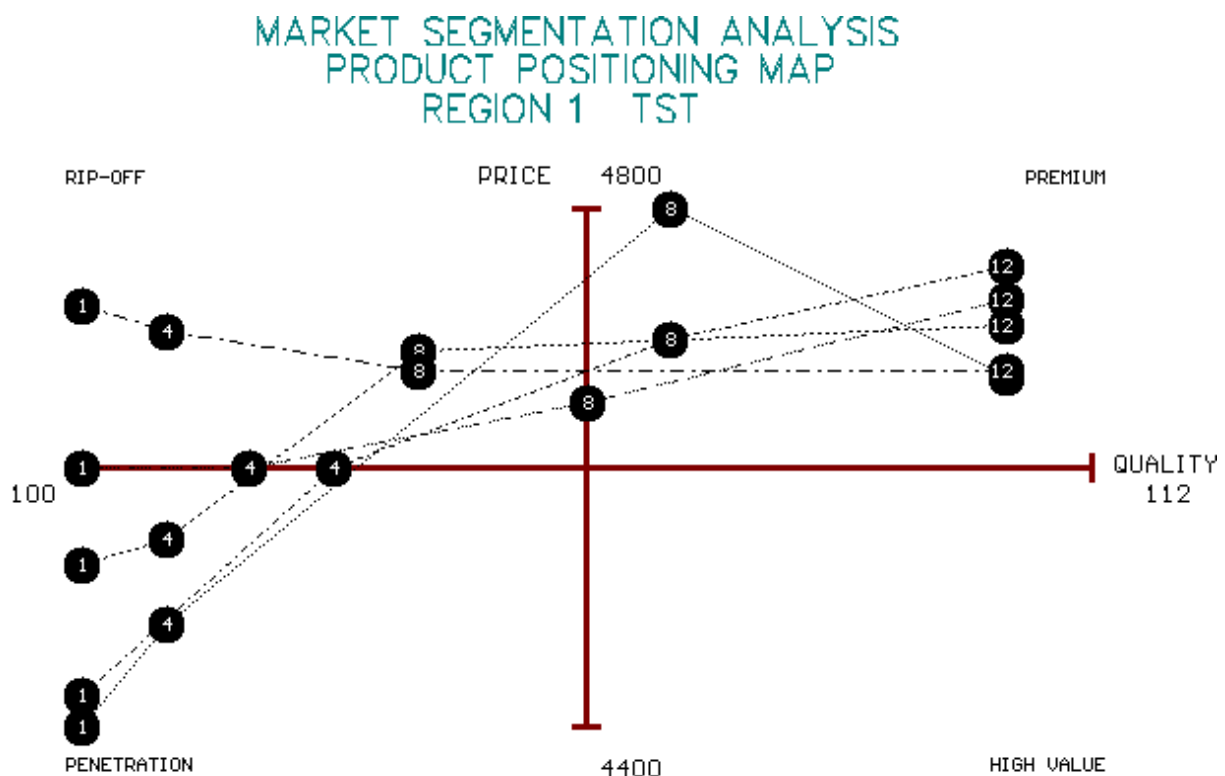
Some authors contend that combining an active student generated database in the form of a simulation game with a DSS will result in improved decision making, lead to improved pro-active rather than re-active strategic planning, and result in improved simulation game performance and enhanced learning (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 user-centered learning tool that helps to prepare students for positioning 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 market segmentation analysis and positioning.

**Exhibit 1**  
**PPM Version 1.0 Graphics Disk Borland Turbo C-based PPM Display**



## STRATEGIC MARKETING

Strategic marketing consists of segmenting, targeting and positioning. A market segment is a relatively homogeneous group of customers who will respond to a marketing mix in a similar way (Perreault and McCarthy 1996). Consumer markets are segmented by scholars based on their geographic, demographic, and psychographic characteristics, and the needs or product responses of each segment are examined (Abell and Hammond 1979, Buell 1984, Busch and Houston 1985, Cravens 1982, Dalrymple and Parsons 1983, DeLozier and Woodside 1978, Dickson and Ginter 1987, Enis 1980, Guiltinan and Paul 1985, Hughes 1978, Kotler 1984, Myers 1996, Reibstein 1985). Consumer markets are also segmented by researchers based on consumer responses to benefits sought (Haley 1968), use occasions, or brands, in order to see whether different consumer characteristics are associated with each consumer-response segment (Kotler 2000, Kotler et al 1999). Some scholars describe market segmentation as an alternative to product differentiation (Evans and Berman 1982, Mandel and Rosenberg 1981, Neidell 1983, Pride and Ferrell 1985, Stanton 1981).

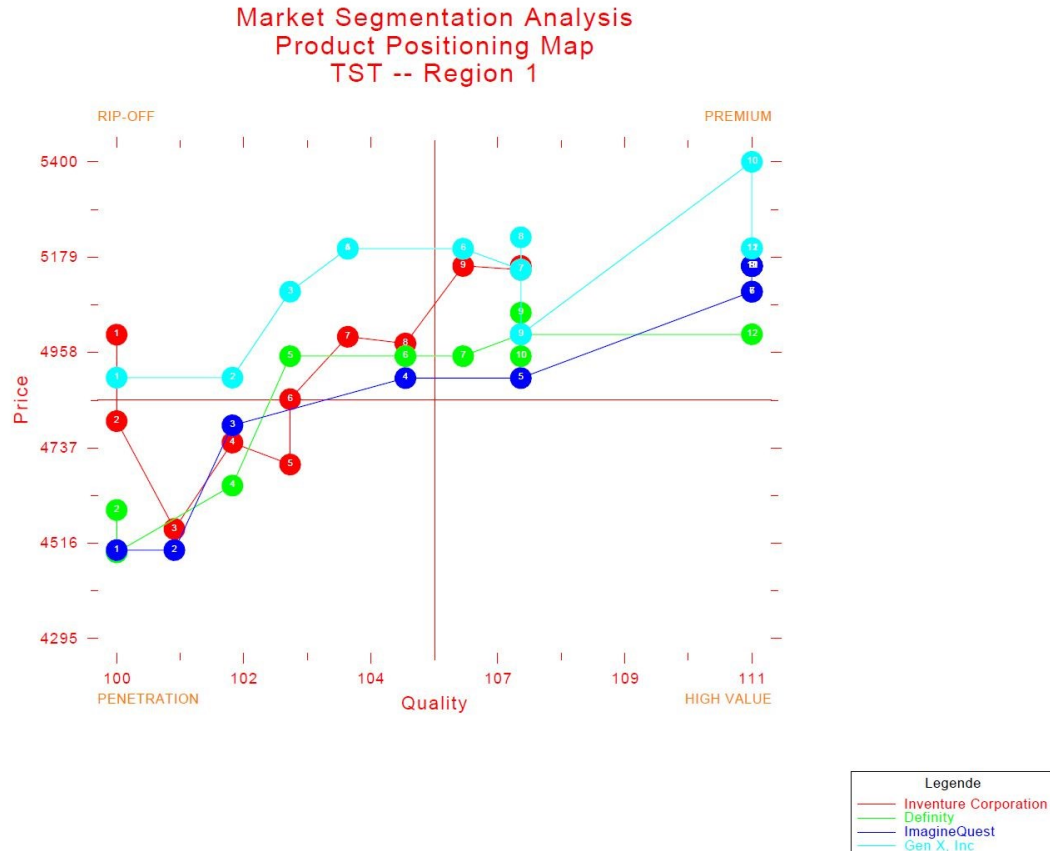
Once the market segments are identified and evaluated, the company decides which target market/s (market segment/s) to serve, and uses either a single-target-market

segmentation strategy, a multiple-target-market segmentation strategy, or a combined-target-market segmentation strategy (Perreault and McCarthy 1996). The company considers one of five patterns of target market selection: single-segment concentration, selective specialization, product specialization, market specialization, and full market coverage (Abell 1980).

Having segmented the market, and identified a target market, the company next endeavors to differentiate its offering from competitors' offerings, and positions its offer and image so that it occupies a distinct and valued place in the target customers' minds (Kotler 2000, Kotler et al 1999, Kotler 1994).

The first and most widely accepted syndicated psychographic segmentation system, the Values and Lifestyles Program of SRI International, attempted to explain the substantial shifts in social values of the 1960s, and their potential effects on consumer behavior. VALS 2 was later developed with a sounder theoretical and methodological basis in order to avoid the criticisms of the original VALS program. The objective was to identify fundamental psychological orientations that underlie patterns of consumer preference and choice (Piiro 1991).

**Exhibit 2**  
**Online PPM Version 1.0 (DISLIN-based) Every Period PPM Display**



## MARKET SEGMENTATION ANALYSIS

Market segmentation analysis examines the structure of the market as perceived by consumers using a geometric spatial model (such as a product positioning map) and attempts to forecast the demand intensity for potential products. First, marketers learn how brands or products in a class are perceived with respect to strengths, weaknesses, similarities, etc. Next, they learn about consumers' desires and how these are satisfied or unsatisfied by the current market offerings. Then, they integrate these findings strategically in order to determine opportunities for new brands or products and how the image of products should be modified to increase market share (Johnson 1971).

Accordingly, market researchers first construct product spaces (product positioning maps) of consumers' perceptions of brands in a product category. Next, they obtain density distributions of consumers' ideal points in the same space. Then, they construct a model which predicts customer segment preferences toward new or modified brands. Researchers first collect similarity/dissimilarity data, preference data, or attribute data of

consumer perceptions of brands in a product category. Then, they use factor analysis, discriminant analysis, and / or nonmetric multidimensional scaling to generate product positioning maps, and cluster analysis to generate density distributions of consumers' ideal points in the same space (Johnson 1971).

Once the position of existing brands in a product category as perceived by consumers is determined on a product positioning map, and the consumer ideal points are located in the same product space, brand market share can be increased by repositioning (a) closer to sizable customer segments (consumer ideal point clusters), (b) farther from competing brands, and (c) on dimensions weighted heavily in consumers' preferences (Johnson 1971).

## POSITIONING

Several scholars have explored the relationship between positioning and elements of the marketing mix as well as other marketing variables. Kalra and Goodstein (1998) examined how nonprice advertising positioning

### Exhibit 3

#### Comparison of PPM Disk V1.0, PPM Graphics Package V1.0 and PPM Graphics Package V2.0

Title	PPM Disk V 1.0	PPM Graphics Package V 1.0	PPM Graphics Package V 2.0
Year	1997	2003	2012
Computer	386+	Pentium 3	Virtual Box VM
Op. System	MS DOS 5.0+	Windows 2003	Windows 2003
RAM	640K	1 GB RAM	2 GB RAM
Monitor	VGA Color Monitor		
Language	Borland Turbo C	LCCWIN32 C-compiler	PELLES C-compiler V 6.50 <sup>1</sup>
		DISLIN Scientific Plotting Library	DISLIN Scientific Plotting Library <sup>2</sup>
		Javascript	Javascript
		VbScript	VbScript
		ActiveState Perl 5.6, 32 bit	Strawberry Perl 5.14, 64 bit <sup>3</sup>
		Windows Scripting Host 2.0	Windows Scripting Host 5.6 <sup>4</sup>
Data Input	Keyboard entry	Script-generatd data file from results	Script-generatd data file from results
Plot Options	Annual: every 4 periods	Annual: every 4 periods	Annual: every 4 periods
		Biannual: every 2 periods	Biannual: every 2 periods
		Quarterly: every period	Quarterly: every period
			Current period
Plot Type	GIF file	PDF file	PDF file

<sup>1</sup> Pelles C: <http://www.smorgasbordet.com/pelleesc/>

<sup>2</sup> DISLIN: <http://www.dislin.de/>

<sup>3</sup> Perl: <http://strawberryperl.com/>

<sup>4</sup> Windows Scripting Host: <http://www.microsoft.com/en-us/download/details.aspx?id=8247>

strategies affect brand equity, price importance, and category price sensitivity. Hauser (1988) explored the interrelationships between competitive price and positioning strategies. Keon (1983) discussed the mapping of brand images, ad images, and consumer preference recognizing the importance of anticipating and measuring the effects of a new repositioning advertising campaign on a brand. He asserts that product managers need to know when to reposition, where to reposition, how to reposition, and the degree of effectiveness of a repositioning strategy. Cannon (1987) as well as Cannon and Alex (1990) state that a basic component of advertising strategies is the key benefit and positioning statement which represent the basis for selling the product and the way the product is to be positioned in consumers' minds. Accordingly, the positioning portion of the advertising strategy should give the copywriter a clear idea of the category in which the product will be competing, how consumers will think about the product, what products it will be compared to, and/or what products it will replace.

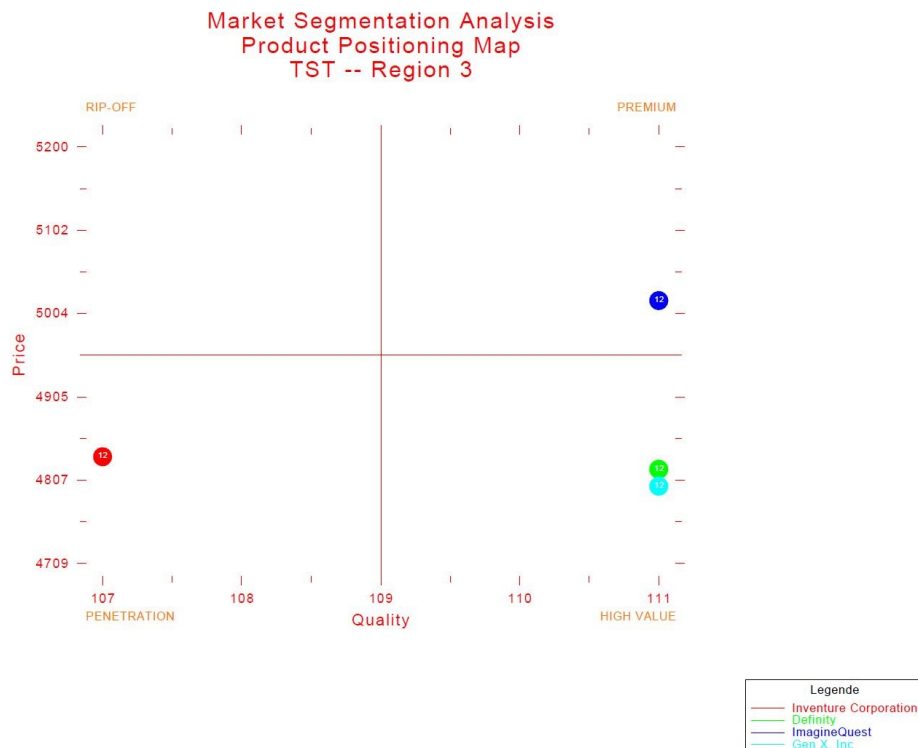
Other scholars have focused on product mix selection and competitive interaction. Andrews et al (2009) indicate that the competitive interaction approach, growing out of product positioning theory, is one of four approaches that can be used in the modeling of product mix interactions. Cannon et al (2010) state that the competitive interaction approach models the effect of competitive products which offer similar attribute profiles, as reflected in their proximity on a positioning map.. Teach (1990) asserts that product mix selection entails a balance of position where individual products within the mix are distant enough from

each other in order to minimize cannibalism, yet close enough to preclude gaps that may be exploited by competitive brands.

Positioning has been proposed and/or used to assess management performance in business simulation games. Ben-Zvi and Carton (2008) indicate that positioning is included along with a description of vision, mission, and objectives in the initial presentation and report when using the International Operations Simulation Mark/2000 (INTOPIA). Further, Ben-Zvi and Gordon (2007) indicate that companies that position themselves at pivotal points within a strategic network outperform companies that do not. Simon and Gentry (2011) provide student teams a Competitive Analysis Worksheet to benchmark their marketing activities and decisions in relation to the competition. This worksheet includes their positioning scores in comparison to ideal points relative to the competition.

Strategic competitor groups may be classified based on their positioning strategies including similar price/quality positions (Aaker 2011). Faria and Wellington (2002) found that student teams in PAINTCO and COMPETE simulations identified competitors using supply-based attributes similar to those identified in a Clark and Montgomery (1999) survey of 37 second-year MBA students with work experience and 20 business managers in executive training courses. The one exception was product positioning. However, the simulation teams did identify advertising and sales force strategies which might represent product positioning. Later, Wellington and Faria (2003) found that business manager teams in the COMPETE

#### Exhibit 4 Online PPM Version 2.0 (DISLIN-based) Current Period PPM Display



simulation used more attributes to identify close competitors for their real-world companies than for their simulation companies. Further, the attributes used by the executives in the study were in agreement with those listed by executives in the Clark and Montgomery (1999) study. Nine attributes were similar or the same across the two studies. These included product quality and pricing which represent positioning.

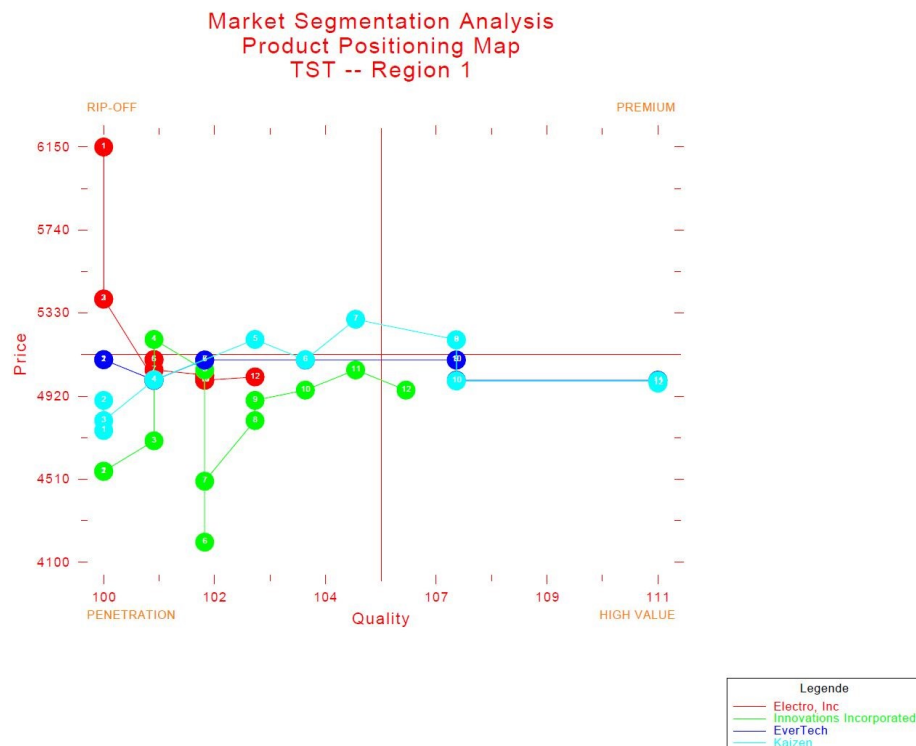
Some authors have explored the relationship between positioning and company image, cosmopolitanism, DSS concepts and organizational networks. Cannon and Schwaiger (2003, 2004) suggested that company reputation be treated as an attribute and offered a classification of a company's reputational position on two dimensions – sympathy and competence. Cannon and Yaprak (2001) explored how cosmopolitanism might be incorporated into simulation games and suggested that competitive intensity might be reflected in examples of competitive advertising from which participants could infer each competitors' positioning. Boehner and Bush (1991) indicate that instructors can teach DSS concepts and make students aware of information as a competitive tool, as unsuccessful companies are often ignorant of the salient market trends and strategic positioning of their competitors. Smith and Grey (2011) investigated the network impact on the behavior of companies and their outcomes and concluded that positioning the enterprise at certain points within a network can improve its performance and increase its profits. Yang and Xi (2012) investigated 985 university students in China and reported that the results suggested that different company positioning based on specific

hierarchical and professional profiles within public administration can increase long-term profits.

Several attempts have been made to operationalize the positioning concept in simulation games. Lamont et al (2005) indicate that each company in the Carnegie-Mellon International Management Game can make no more than two different products that are positioned either in the more price-sensitive less brand-loyal or premium quality-conscious brand-loyal segment of the market. In addition, participants can alter the positioning of the products during the game. The absence of ideal points for customer preferences induces customers to react to the relative position of products based on memory of past position. Brand loyalty depends on both past quality and brand image. Laric (1981) states that teams make product-positioning decisions based on two product attributes (each with a seven-point scale in the Ziff et al (1971) *Marketing A New Product* game. LaTour and McCain (1983) proposed a strategy worksheet including a brand positioning component for use with the COMPETE simulation. This strategy worksheet is purported to result in a clear, well organized, evaluation and strategic plan.

Given the relationship between positioning and company performance, an effort is needed to monitor and display the positions of each of the competing SBUs on a product positioning map relative to competing brands. This will enable competing participant teams to identify the existing position (price v quality) of main competing brands based on their positioning strategies. Participants can identify heavy-user customer segments based on psycho-demo-graphic segmentation data, study their needs

### Exhibit 5 Online PPM Version 2.0 (DISLIN-based) Every Period PPM Display





and purchase motivations, and reposition their brands relative to competing brands in order to improve subsequent team performance. The Product Positioning Map (Version 2.0) package generates nine auto-scaled product position maps (one for each of the nine SBUs) based on team performance. Each of the nine product position maps displays the current price v quality position of each of the competing brands and enables participants to visualize which brands are positioned in each of the premium, high-value, penetration, and/or rip-off quadrants.

## THE MARKETING SIMULATION COMPETE

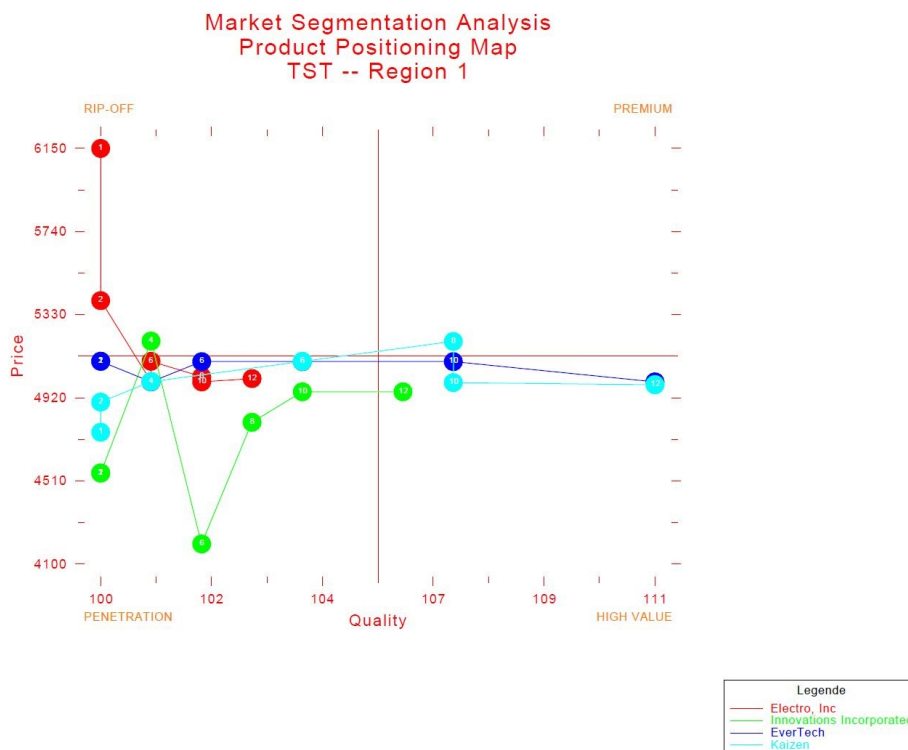
COMPETE (Faria, 2006) is a marketing simulation designed to provide students with marketing strategy development and decision-making experience. Competing student teams are placed in a complex, dynamic, and uncertain environment. The participants experience the excitement and uncertainty of competitive 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. 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 generate the product positioning maps for each of their nine SBUs.

### Exhibit 6 Online PPM Version 2.0 (DISLIN-based) Every Two Periods PPM Display



## PRODUCT POSITIONING MAP GRAPHICS PACKAGE

The Web-based Product Positioning Map (PPM) graphics package (Version 2.0) is accessible online to competing participant teams in the marketing simulation COMPETE. This package enables each of the competing participant teams to generate a product positioning map for each of their own and competitor brands for each of the nine strategic business units (SBUs) based on price and quality data parsed from the simulation results. These product positioning maps are used by the participant teams together with VALS psychographic profiles and sample psycho- demo-graphic VALS2 data in market segmentation analysis and in repositioning their brands.

This interactive Web-based PPM graphics package (Version 2.0) builds on the original (Borland Turbo C-based) PPM display (see Exhibit 1) generated by the PPM Version 1.0 Graphics Disk (Palia 1997) and the subsequent (DISLIN-based ) PPM display (see Exhibit 2) generated by the Interactive Online PPM Graphics Package Version 1.0 (Palia et al.,2003). This PPM graphics package (Version 2.0) is distinct from the PPM Graphics Disk (Version 1.0) and PPM Graphics Package (Version 1.0) in terms of programming language used, data input, plot options, and plot type (see Exhibit 3).

The current PPM.exe graphics back-end program was developed with the DISLIN scientific plotting library written by Helmut Michels (DISLIN) and compiled with the Pelles C Compiler for Windows (see Exhibit 3). First, a

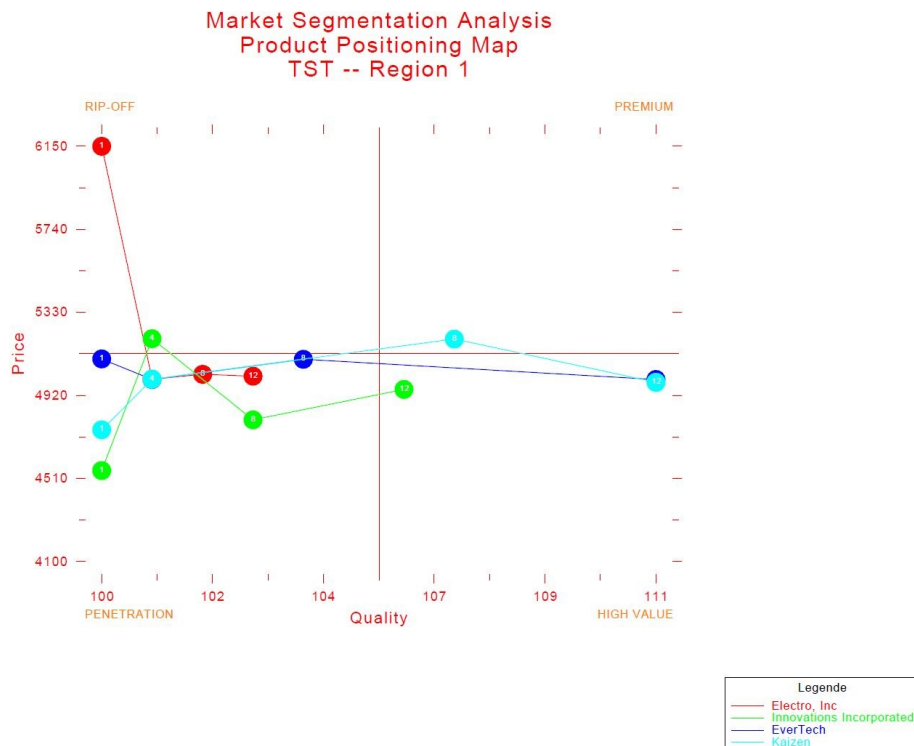
data collection and transformation module extracts price and quality data from the simulation results and saves it in a ppm.dat data file. Later, the ppm.exe graphics package uses this data to generate and present the PPM Display in the form of a PDF file.

The current PPM graphics package (Version 2.0) enables the user to plot the current position of each of their nine SBUs relative to competitor brands during the current period (see Exhibit 4) in addition to the trend plots for every period (see Exhibit 5), every two periods (see Exhibit 6) and every four periods (see Exhibit 7). Based on the current period plot, the user can determine whether each of their nine brands (SBUs) is currently in the Premium, High Value, Penetration or Rip-off quadrant relative to competitor brands (see Exhibit 4).

## PRODUCT POSITIONING MAP (PPM) GRAPHICS PACKAGE USE

Competing participant teams use the Product Positioning Map (PPM) Graphics Package Version 2.0 in market segmentation analysis and positioning. Participants with Web-access and validated team IDs and passwords can use the interactive online PPM graphics package to selectively generate product positioning maps for competing brands for the current decision period. In addition, they can generate and display brand trajectories for every period, every two periods, or every four periods till the current decision period.

### Exhibit 7 Online PPM Version 2.0 (DISLIN-based) Every Four Periods PPM Display





Participants use the current period plots for each of the nine SBUs to determine the current price-quality position of their brands. Next, they use sample VALS2 psychographic segmentation data (see Exhibits 8 to 13) to identify potential heavy-user segments and to study their VALS2 psychographic profiles and purchase motivations. The data in Exhibits 8 to 13 pertain to Achievers, one of the eight VALS2 psychographic profiles. Participants use similar data on popular packaged goods (see Exhibit 8), popular magazines and newspapers (see Exhibit 9), popular music genres (see Exhibit 10), other products and related activities (see Exhibits 11 and 12), and popular zip codes (see Exhibit 13) for all eight VALS2 typologies (Actualizers, principle-oriented Fulfilleds and Believers, status-oriented Achievers and Strivers, action-oriented Experiencers and Makers, and Strugglers) in order to identify one or more potential heavy-user segments for each of their nine SBUs.

Having identified potential heavy-user segments for each of their nine SBUs, participants use external research to supplement the VALS2 psychographic profiles with media-, purchase- and usage-behavior information on corresponding heavy-user demographic segments. Based on their analysis of the sample VALS2 data and external

research, they select one or more target segments from the eight VALS2 psychographic typologies, decide whether the selected target segments are price-, quality- or value-conscious, and reposition their brands relative to competing brands through appropriate marketing strategies. Further, participants can use the trend plots to identify competitor brand trajectories, positioning trends and strategies.

## PRODUCT POSITIONING MAP (PPM) GRAPHICS PACKAGE PROCESS

Following the simulation run for each decision period, the simulation administrator uses a Perl script to extract price and quality data for each industry from the COMPETE simulation output and saves it to a ppm.dat file. A windows script file calls the Perl extraction script to iterate over and generate ppm.dat files for each participating industry. Next, the administrator renames the generic ppm.dat file in each industry folder to an industry-specific file name such as ppmC.dat for Industry C, and uploads the file to the corresponding Industry C folder on the web server.

Later, the competing participant teams log in to the COMPETE Online Decision Entry System (CODES)

### Exhibit 8 VALS2 Sample Data on Packaged Food Products Popular With Achievers

Item	Index
Rice / Grain Cakes	135
Frozen Muffins	128
Frozen Yogurt	128
Low Fat / Calorie / Cholesterol Cheese	127
Bagels	125
Liquid Nutritional Supplements	124
Homemade Pizza (not frozen)	122
Diet / Sugar Free Colas	118
Dry Mix Salad Mix	118
Dry Brownie Mix	117

Source: VALS / Simmons

### Exhibit 10 VALS2 Sample Data on Music Genres Popular With Achievers

Item	Index
Contemporary Rock	161
Contemporary Jazz	156
Broadway Cast, Movie, TV Soundtracks	154
1960s Rock	142
Contemporary Pop Vocal	140
Contemporary Country	139
Christian Rock	138
Contemporary Rock Bands	127
1940s, 50s, 60s Pop	117

Source: VALS / Simmons

### Exhibit 9 VALS2 Sample Data on Magazines and Newspapers Popular With Achievers

Item	Index
Parenting	194
Entertainment Weekly	180
Golf Magazine	166
L.A. Times Magazine	165
Country Home	159
Sesame Street Magazine	158
Sunday Washington Post	157
N.Y. Times Daily Edition	154
Wall Street Journal	153

Source: VALS / Simmons

### Exhibit 11 VALS2 Sample Data on Other Achiever-Related Products and Activities

Item	Index
Swimming Pool / In Ground	192
Own Snow Blower	184
Bought Outdoor Lighting Fixtures	176
Own Water Purifier	168
Own Room Dehumidifier	165
Have Wood Burning Fireplace Insert	160
Have Sun / Moon Roof in Car	156
Own Video Camera	156
Own Electric Screwdriver	156
Membership in PTA	143
Have Self-Cleaning Oven	143
Own Piano	138

Source: VALS / Simmons

website (Palia and Mak 2001, Palia et al 2000). Their login is validated against a database of participating teams for each industry. When they select the Product Positioning Map option from the CODES Main Menu, the web application selects the correct data file for their industry and presents them with several options. They can select one or more companies to be plotted, the product to be plotted, the region to be plotted, and whether they want the plot for (a) the current period (see Exhibit 4), (a) every period (see Exhibit 5), (b) every two periods (see Exhibit 6), or (c) every four periods (See Exhibit 7). In addition, they have a choice of color or black and white plot. Once the options are selected, they click the Submit button to generate the graphic display link to a .PDF file. Later, when they click this link, the PPM graph display with the selected options is opened in Acrobat Reader. The process can be repeated for different companies, products, regions, or periods with different display settings. The PPM graph displays can be imported into Microsoft PowerPoint or Microsoft Word for subsequent presentation or report respectively.

Product Positioning Map displays are generated at the end of each period of operations and permit the participant teams to determine the position of each of their SBUs relative to the corresponding SBUs of their competitors. In addition, the participant teams can determine the trajectories (direction and degree of movement) of each of their SBUs. Competitor brand trajectories can also be generated and analyzed. Based on these displays, the competing participant teams can monitor the existing position of each of their brands relative to the corresponding brands of their competitors.

Next, they use the VALS2 (Values and Lifestyles) framework to identify heavy user target segments based on sample VALS2 data. They are provided with sample VALS2 data that specify VALS2 indices on popular packaged food products (see Exhibit 8), magazines and newspapers (see Exhibit 9), music genres (See Exhibit 10), other products and activities (see Exhibits 11 and 12) and zip codes (see Exhibit 13). These sample VALS2 data are provided for each of the eight VALS2 typologies (Actualizers, principle-oriented Fulfilleds and Believers,

**Exhibit 12**  
**VALS2 Sample Data on Other**  
**Achiever-Related Products and Activities**

Item	Index
Belong to a Book Club	68
Own Instant-Developing Still Camera	65
Drink Port, Sherry, and Dessert Wines	61
Used Liquid Laxatives Past Six Months	59
Attended Classical Concert Past Year	55

Source: VALS / Simmons

These categories represent a sample of some consumer activities that involve Achievers, either markedly more (high index) or less (low index) than the population at large. The items represent relative, not absolute, popularity or unpopularity. Thus, only a few items will apply directly to your life, although many should apply indirectly.

status-oriented Achievers and Strivers, action-oriented Experiencers and Makers, and Strugglers). Based on their analysis of the sample VALS2 data, they identify one or more potential heavy-user segments for each of their nine SBUs. Then, they understand the needs, purchase motivations, media- purchase- and usage-behaviors of the target customer segment/s based on VALS typology descriptors and external research. Finally, they develop appropriate marketing strategies to reposition their brands.

## STRENGTHS AND LIMITATIONS

The Product Positioning Map Package Version 2.0 is used in market segmentation analysis and positioning to assess the current position of each of nine SBUs relative to competitor brands during the current period of competition. This package can also be used to assess trends in SBU trajectories every period, every two periods, or every four periods, and to evaluate the current position and trajectories of the corresponding SBUs of major competitors.

Positive anecdotal student feedback was received during Spring and Fall 2012 semesters. Some undergraduate students reported that the decision support packages were useful and helpful. They hoped that it would continue to be used in the future as it helped them visualize the current position of their brands relative to the competition. Other students indicated that they did not make full use of the DSS.

Admittedly, market segmentation analysis and positioning are complex and require considerable effort, judgment and experience. The product positioning maps for each SBU are generated based on actual price and quality data for each of the competing firms, rather than consumer perceptions of the price and quality of the competing brands. Further, the competing participant teams need to (a)

**Exhibit 13**  
**VALS2 Sample Data**  
**on Popular Achiever Zip Codes**

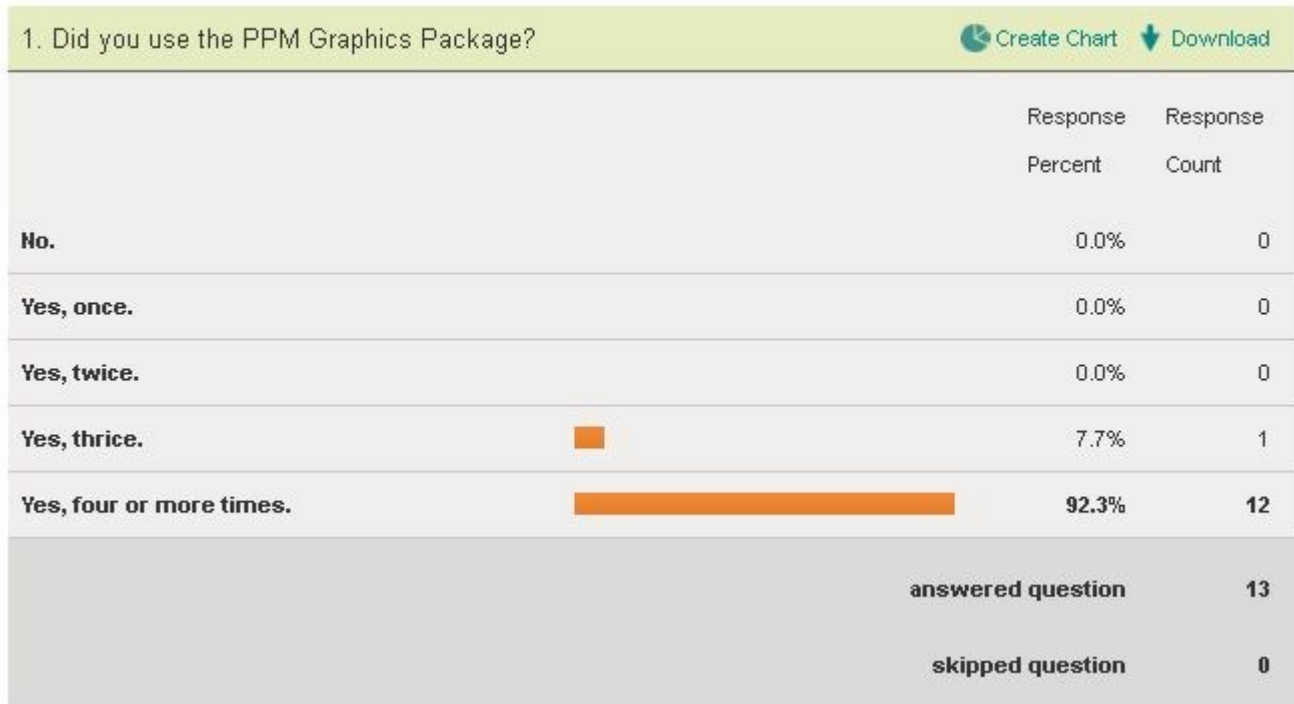
Item	State	Zip Code	Density	Index
Amherst	NH	03031	33.6%	215
Boston	MA	02108	34.5%	221
Boxford	MA	01921	35.0%	224
Carlisle	MA	01741	34.6%	221
Harvard	MA	01451	36.2%	232
Kenilworth	IL	60043	31.8%	203
Sherborn	MA	01770	36.6%	234
Somers	CT	06071	32.4%	207
Westport	CT	06883	34.8%	223
U.S. Average			15.6%	100

Source: GeoVALS / Market Statistics

Density numbers indicate the percentage of Achievers in the given locality, which may be compared to the overall US. average at the bottom of the table. Index numbers indicate the variance between the number of Achievers in the locality versus the national average. For instance, an index of 120 indicates a +20% variance..

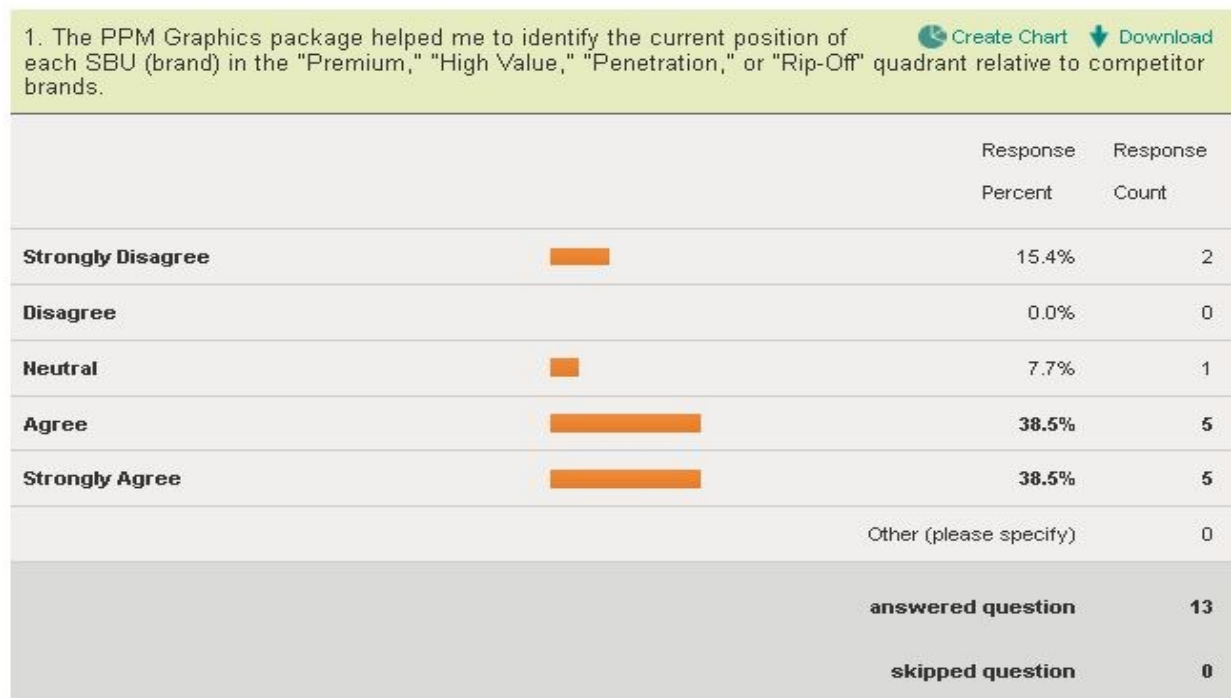
## Exhibit 14 Survey Responses – Package Usage

PAGE: PPM GRAPHICS PACKAGE USAGE



## Exhibit 15 Survey Responses – Current Position Identification





PAGE: CURRENT POSITION & POSITIONING TREND IDENTIFICATION



## Exhibit 16

### Survey Responses – Positioning Trend Identification

2. The PPM Graphics package helped me to identify the positioning trend for "every period," "every 2 periods," or "every four periods" of each SBU (brand) relative to competitor brands. [Create Chart](#) [Download](#)




		Response Percent	Response Count
<b>Strongly Disagree</b>		7.7%	1
<b>Disagree</b>		0.0%	0
<b>Neutral</b>		7.7%	1
<b>Agree</b>		38.5%	5
<b>Strongly Agree</b>		<b>46.2%</b>	<b>6</b>
	Other (please specify)		0
<b>answered question</b>			<b>13</b>
<b>skipped question</b>			<b>0</b>

## Exhibit 17

### Survey Responses – Repositioning Strategy Selection Based On VALS2 Data

PAGE: REPOSITIONING STRATEGY BASED ON VALS2 PSYCHO-DEMO-GRAPHIC DATA

1. The PPM Graphics Package helped me to select a repositioning strategy suitable for potential heavy-user segments identified with above average VALS2 indices based on sample VALS2 psycho-demo-graphic data. [Create Chart](#) [Download](#)

		Response Percent	Response Count
<b>Strongly Disagree</b>		0.0%	0
<b>Disagree</b>		0.0%	0
<b>Neutral</b>		15.4%	2
<b>Agree</b>		<b>61.5%</b>	<b>8</b>
<b>Strongly Agree</b>		23.1%	3
	Other (please specify)		0
<b>answered question</b>			<b>13</b>
<b>skipped question</b>			<b>0</b>

monitor the performance of each SBU as well as the corresponding SBUs of their major competitors over several decision periods, (b) generate the Product Positioning Map (PPM) visual displays for each of their nine SBUs every period, (c) interpret and analyze these displays on a sustained basis, (d) identify one or more potential heavy-user target segments based on sample VALS2 psycho-geo-demo-graphic segmentation data, (e) determine the media-, purchase-, and usage-behavior of their target segments based on VALS2 psychographic profiles and external research, (f) decide whether their target segments are price- or quality- or value-conscious, and (g) reposition their brands based on their analyses of the target segments.

Despite these limitations, the Product Positioning Map Graphics Package is a simple yet powerful web-based user-centered learning tool that generates product positioning maps based on relevant price and quality 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 market segmentation analysis and positioning, and actualize the potential of the Product Positioning Map Graphics 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 Product Positioning Map Graphics Package and market segmentation analysis and positioning can help to improve the performance of each brand, and thereby justify the considerable effort and time involved.

## Exhibit 18

### Survey Responses – Awareness & Learning

**PAGE: CURRENT PRODUCT POSITION & REPOSITIONING STRATEGY AWARENESS & LEARN...**

1. The PPM Graphics Package improved my (a) awareness of the current SBU (brand) positions relative to competitors and the positioning trends, (b) ability to identify potential heavy-user segments with above-average VALS2 indices, (c) understanding of the needs and purchase motivations of target segment/s, (d) selection of a repositioning strategy, and (e) ability to develop a persuasive strategic market plan. [Create Chart](#) [Download](#)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Rating Average	Response Count
Identify Current Position	7.7% (1)	0.0% (0)	7.7% (1)	61.5% (8)	23.1% (3)	3.92	13
Identify Positioning Trend	7.7% (1)	7.7% (1)	30.8% (4)	30.8% (4)	23.1% (3)	3.54	13
Identify Heavy-user Segment/s	7.7% (1)	15.4% (2)	15.4% (2)	53.8% (7)	7.7% (1)	3.38	13
Identify Purchase Motivations	7.7% (1)	30.8% (4)	15.4% (2)	38.5% (5)	7.7% (1)	3.08	13
Select Repositioning strategy	7.7% (1)	0.0% (0)	7.7% (1)	69.2% (9)	15.4% (2)	3.85	13
Strengthen Strategic Market Plan	7.7% (1)	7.7% (1)	15.4% (2)	61.5% (8)	7.7% (1)	3.54	13
Other (please specify)							0
answered question							13
skipped question							0

## USER FEEDBACK



An online survey was used to assess participant usage of and learning experience with the PPM Graphics Version 2.0 package at the end of the Fall 2012 semester. This online survey consisted of ten questions that assessed (a) package usage and usefulness in identifying the current position and positioning trends of each SBU relative to competitor brands, (b) package impact on awareness and learning about the current position of each SBU relative to needs of the heavy-user target segment identified based on sample VALS2 data, (c) package attributes, (d) package usage time, (e) package usage experience, and (f) value

added to the course learning experience by the package, simulation, decision support systems, and concepts covered using five-point Likert and/or rating scales.

Thirteen students (59%) of the 22 participants in the course completed the online survey. Twelve (12) of these 13 students (92.3%) used the package four or more times. The remaining 1 student (7.7%) used the package thrice (see Exhibit 14). Ten of the 13 students (77%) agreed (5 strongly agreed and 5 agreed) that the package helped them to identify the current position of each of their SBUs (brands) in the “Premium,” “High Value,” “Penetration,” or “Rip-Off” quadrant relative to competitor brands (see Exhibit 15).

### Exhibit 19 Survey Responses – PPM Graphics Package Attributes

PAGE: PPM GRAPHICS PACKAGE USAGE EXPERIENCE

1. Rate the following attributes of the PPM Graphics Package:  Create Chart  Download							
	Very Poor	Poor	Average	Good	Very Good	Rating Average	Response Count
Access (Online)	0.0% (0)	0.0% (0)	0.0% (0)	15.4% (2)	84.6% (11)	4.85	13
Availability (24/7)	0.0% (0)	0.0% (0)	7.7% (1)	15.4% (2)	76.9% (10)	4.69	13
Flexibility (any team)	0.0% (0)	0.0% (0)	0.0% (0)	15.4% (2)	84.6% (11)	4.85	13
Scope (any product)	0.0% (0)	0.0% (0)	0.0% (0)	30.8% (4)	69.2% (9)	4.69	13
Coverage (any region)	0.0% (0)	0.0% (0)	0.0% (0)	38.5% (5)	61.5% (8)	4.62	13
Current Position	0.0% (0)	0.0% (0)	0.0% (0)	38.5% (5)	61.5% (8)	4.62	13
Trend (every period)	0.0% (0)	0.0% (0)	0.0% (0)	46.2% (6)	53.8% (7)	4.54	13
Trend (every two periods)	0.0% (0)	0.0% (0)	0.0% (0)	46.2% (6)	53.8% (7)	4.54	13
Trend (every four periods)	0.0% (0)	0.0% (0)	8.3% (1)	41.7% (5)	50.0% (6)	4.42	12
Ease of use	0.0% (0)	7.7% (1)	7.7% (1)	38.5% (5)	46.2% (6)	4.23	13
Usage time	0.0% (0)	0.0% (0)	23.1% (3)	38.5% (5)	38.5% (5)	4.15	13



In addition, 11 students (84.7%) agreed that the package helped them to identify the positioning trend for “every period,” “every 2 periods,” or “every 4 periods” of each SBU (brand) relative to competitor brands (6 students strongly agreed (46.2%), 5 students agreed (38.5%), 1 student (7.7%) was neutral, and 1 student (7.7%) strongly disagreed (see Exhibit 16). Further, 11 students (84.6%) agreed that the package helped to select a repositioning strategy suitable for potential heavy-user segments identified with above average VALS2 indices based on sample VALS2 psycho-demo-graphic data (3 students strongly agreed, 8 students agreed, and two students were neutral) (see Exhibit 17).

Students rated the degree to which the PPM Graphics Package improved their awareness of (a) the current SBU brand positions relative to competitors and the positioning trends, (b) ability to identify potential heavy-user segments with above-average VALS2 indices, (c) understanding of the needs and purchase motivations of target segments, (d) selection of a repositioning strategy, and (e) ability to develop a persuasive strategic market plan using a five-point rating scale from 1- Strongly Disagree to 5 - Strongly Agree. The average ratings of 13 students on improved awareness and learning are (a) 3.92 for Identify Current Position, (b) 3.54 for Identify Positioning Trend, (c) 3.38 for Identify Heavy-user Segments, (d) 3.08 for Identify Purchase Motivations, (e) 3.85 for Select Repositioning



Strategy, and (f) 3.56 for Strengthen Strategic Market Plan (see Exhibit 18).

Next, students rated various attributes of the PPM Graphics Package using a five-point rating scale from 1 – Very Poor to 5 – Very Good. The average ratings of the 13 respondents to this question on rating the attributes of the PPM Graphics Package are 4.85 on Access (Online), 4.69 on Availability (24/7), 4.85 on Flexibility (any team), 4.69 on Scope (any product), 4.62 on Coverage (any region), 4.62 on Current Position, 4.54 on Trend (every period), 4.54 on Trend (every 2 periods), 4.42 on Trend (every 4 periods), 4.23 on Ease of Use, and 4.16 on Usage time (see Exhibit 19).

The majority of the 13 respondents reported that downloading the package took 1 minute or less {7 students (53.8%) reported 1 minute or less and the remaining 6 students (46.6%) reported 2 to 5 minutes}, selecting the options took 1 minute or less {9 students (69.2%) reported 1 minute or less and the remaining 4 students (30.8%) reported 2 to 5 minutes}, generating the graphic plot took 1 minute or less {9 students (69.2%) reported 1 minute or less and the remaining 4 students (30.8%) reported 2 to 5 minutes}, and analyzing the results took less than 5 minutes {4 students (30.8%) reported 1 minute or less, 4 students (30.8%) reported 2 to 5 minutes, 3 students (23.1%) reported 6 to 10 minutes, and the remaining 2

## Exhibit 20

### Survey Responses – PPM Graphics Package Usage Time

2. How long did it take to use the PPM Graphics Package?						 Create Chart	 Download
	1 minute or less	2 to 5 mins.	6 to 10 mins.	11 to 15 mins.	16 or more mins.	Response Count	
Download Package	53.8% (7)	46.2% (6)	0.0% (0)	0.0% (0)	0.0% (0)	13	
Select Options	69.2% (9)	30.8% (4)	0.0% (0)	0.0% (0)	0.0% (0)	13	
Generate Graphic Plot	69.2% (9)	30.8% (4)	0.0% (0)	0.0% (0)	0.0% (0)	13	
Analyze Results	30.8% (4)	30.8% (4)	23.1% (3)	15.4% (2)	0.0% (0)	13	
Other (please specify)						0	
answered question						13	
skipped question						0	

students (15.4%) reported 11 to 15 minutes} (see Exhibit 20).

Participants commented on their PPM Graphics Package usage experience and suggested improvements. One student stated “I had a good experience with the package and found it to be quite useful.” Another student suggested “Make all graphs on one page to save time.” A third student commented “very useful. Should emphasize use of it more to the class.” Some students suggested useful improvements. Yet another student commented “I enjoyed using the PPM Graphics Package, it was easy to use and was very helpful when turning in the Strategic Market Plan Report...” (see Exhibits 21 & 22).

Then, students rated the value added to their strategic market planning learning experience by various factors such as topic coverage, in-class demo, “Hands-On” sessions, and Online access using a five-point rating scale from 1 – No value added to 5 – Significant value added.

The average ratings of the 8 respondents on the value added to their strategic market planning learning experience are 3.31 on Topic Coverage, 3.46 on In-Class demo, 3.31 on “Hands On” sessions, and 4.00 on Online access (see Exhibit 23).

Finally, participants rated the value added to the Marketing Strategy learning experience by the Online PPM Graphics Package, the marketing simulation COMPETE, marketing DSS packages, Online PPA Graphics Package, and Online Course Handouts Repository using a five-point rating scale from 1 – No value added to 5 – Significant value added. The average ratings of the 8 respondents on the value added to their Marketing Strategy learning experience are 3.55 on the Online PPM Graphics Package, 3.77 on the marketing simulation COMPETE, 3.62 on marketing DSS packages, 3.77 on Online PPA Graphics Package, and 3.69 on Online Course Handouts Repository (see Exhibit 24).

## Exhibit 21

### Survey Responses – PPM Graphics Package Comments

#### PAGE: PPM GRAPHICS PACKAGE USAGE EXPERIENCE

1. Please comment on your PPM Graphics Package usage experience and suggest improvements. [Download](#)

	Response Count
<a href="#">Hide Responses</a>	10

Responses (10)
Text Analysis
My Categories (0)

**GOLD FEATURE:** Text Analysis allows you to view frequently used words and phrases, categorize responses and turn open-ended text into data you can really use. To use Text Analysis, **upgrade to a GOLD or PLATINUM plan.**

[Learn More](#)
[Upgrade »](#)

Showing 10 text responses No responses selected

I had a good experience with the package and found it to be quite useful. I think it should include an option to view previous periods as an improvement.  
12/4/2012 6:27 PM [View Responses](#)

make all graphs on one page to save time  
12/4/2012 2:00 PM [View Responses](#)

The only feature that could be changed is to prevent the period selection drop down bar from always resetting to the default. If I want to look at all the SBUs for a region for every four periods or two periods I have to keep selecting that choice. It's not a major problem, but I forgot to reselect that choice for certain SBUs and did not have the right PPMs.  
12/4/2012 12:47 AM [View Responses](#)

its great  
12/3/2012 10:47 PM [View Responses](#)

very useful. Should emphasize use of it more to the class.  
12/3/2012 7:35 PM [View Responses](#)

answered question
10

In summary, the participants reported a positive usage, awareness, understanding, usage time and learning experience with the Online PPM Version 2.0 Graphics Package. They appreciated the access, availability, flexibility, scope, coverage, current position and trends, ease of use and minimal usage time attributes of the package. They “had a good experience with the package,” “found it very useful and suggested greater emphasis of its use in class,” and commented that the package was “easy to use and very helpful when turning in the Strategic Market Plan report.” They felt that the Topic coverage, In-class demo, “Hands On” sessions, and Online access features added substantial value to the product positioning learning experience. In addition, they reported that the Online PPM Graphics Package, the marketing simulation COMPETE, marketing DSS packages, and Online PPA Graphics Packages as well as the Online Course Handouts

Repository added substantial value to the Marketing Strategy learning experience.

## CONCLUSION

The Web-based Product Positioning Map Graphics Package is a user-centered learning tool that helps to prepare students for positioning and marketing decision-making responsibilities in their future careers. The package enables users to apply market segmentation analysis and positioning. They use this package to visualize and assess the current position of each of their nine SBUs during each period of competition. In addition, they can plot their own and competing brand trajectories every period, every two periods, and every four periods. This online Product Positioning Map Graphics Package facilitates the

### Exhibit 22 Survey Responses – PPM Graphics Package Comments (continued)

PAGE: PPM GRAPHICS PACKAGE USAGE EXPERIENCE

1. Please comment on your PPM Graphics Package usage experience and suggest improvements.
Download

Response	Count
Hide Responses	10

Responses (10)
Text Analysis
My Categories (0)

**GOLD FEATURE:** Text Analysis allows you to view frequently used words and phrases, categorize responses and turn open-ended text into data you can really use. To use Text Analysis, **upgrade to a GOLD or PLATINUM plan.**
Learn More
Upgrade »

Showing 10 text responses
No responses selected

It was fine and I did not have many difficulties using it. The only feature I can think of would be a way to not have to go back and forth to update the download link. There would be times when I forgot to click the "update" button and printed the wrong PPM.

12/3/2012 10:38 AM View Responses

Didn't really use it much, only for write-ups (Individual report) and presentation.

12/2/2012 1:04 PM View Responses

Overall the PPM Graphics Package was easy to use, the only difficulty would be lack of understanding of the material.

12/2/2012 2:28 AM View Responses

it was well i wish we could have done our real project ppm stuff actually during the in class sessions in the lab because it would have helped more instead of making a bogus scenario and trying to do it again later when we have more questions than answers

11/29/2012 12:43 AM View Responses

I enjoyed using the PPM Graphics Package, it was easy to use and was very helpful when turning in my SMP Report! All the features were desirable, and I don't think there is any need for improvement.

answered question
10

integration of computers, the Internet and the World Wide Web into the marketing curriculum.

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## Exhibit 23 Survey Responses – Product Positioning Learning Experience

### PAGE: MARKETING COURSE LEARNING EXPERIENCE

1. Rate the value added to your product positioning learning experience by the following factors:

 Create Chart  Download



	No value added	Some value added	Moderate value added	Substantial value added	Significant value added	Rating Average	Response Count
<b>Topic coverage</b>	0.0% (0)	0.0% (0)	<b>76.9% (10)</b>	15.4% (2)	7.7% (1)	3.31	13
<b>In-class demo</b>	0.0% (0)	7.7% (1)	<b>46.2% (6)</b>	38.5% (5)	7.7% (1)	3.46	13
<b>"Hands On" sessions</b>	7.7% (1)	0.0% (0)	<b>61.5% (8)</b>	15.4% (2)	15.4% (2)	3.31	13
<b>Online access</b>	0.0% (0)	0.0% (0)	<b>38.5% (5)</b>	23.1% (3)	<b>38.5% (5)</b>	4.00	13
Other (please specify)							0
<b>answered question</b>							<b>13</b>
<b>skipped question</b>							<b>0</b>



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## Exhibit 24

### Survey Responses – Marketing Strategy Learning Experience

2. Rate the value added to the Marketing Strategy/Management learning experience by the following factors: <span style="float: right;"> Create Chart  Download</span>							
	No value added	Some value added	Moderate value added	Substantial value added	Significant value added	Rating Average	Response Count
<b>Online PPM Graphics Package</b>	0.0% (0)	15.4% (2)	23.1% (3)	<b>53.8% (7)</b>	7.7% (1)	3.54	13
<b>Marketing Simulation COMPETE</b>	0.0% (0)	7.7% (1)	<b>38.5% (5)</b>	23.1% (3)	30.8% (4)	3.77	13
<b>Marketing Decision Support Packages</b>	0.0% (0)	15.4% (2)	23.1% (3)	<b>46.2% (6)</b>	15.4% (2)	3.62	13
<b>Online PPA Graphics Package</b>	0.0% (0)	15.4% (2)	23.1% (3)	<b>30.8% (4)</b>	<b>30.8% (4)</b>	3.77	13
<b>Online Course Handouts Repository</b>	0.0% (0)	15.4% (2)	<b>30.8% (4)</b>	23.1% (3)	<b>30.8% (4)</b>	3.69	13
Other (please specify)							0
<b>answered question</b>							<b>13</b>
<b>skipped question</b>							<b>0</b>

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