



GLO-BUS

Developing Winning Competitive Strategies

Participant's Guide

2016 Edition

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The Business Strategy Game is published and marketed exclusively by McGraw-Hill Education, Inc., 1333 Burr Ridge Parkway, Burr Ridge, IL 60527

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Welcome to **GLO-BUS**. You and your co-managers are taking over the operation of a digital camera company that is in a neck-and-neck race for global market leadership, competing against rival digital camera companies run by other class members. All digital camera-makers presently have the same worldwide market share, although shares vary by company across the four market regions—Europe-Africa, Asia-Pacific, Latin America, and North America. Currently, your company is selling close to 800,000 entry-level cameras and 200,000 multi-featured cameras annually. Prior-year revenues were \$206 million and net earnings were \$20 million, equal to \$2.00 per share of common stock. The company is in sound financial condition, is performing well, and its products are well-regarded by digital camera users. Your company's board of directors has charged you and your co-managers with developing a winning competitive strategy—one that capitalizes on growing consumer interest in digital cameras, keeps the company in the ranks of the industry leaders, and boosts the company's earnings year-after-year.

Your first priority as a **GLO-BUS** participant should be to absorb the contents of this Participant's Guide and get a firm grip on the procedures for participating in the exercise, the character of the digital camera market, and the cause-effect relationships that govern your company's business. Then you will be ready to explore the software and start managing your assigned company.

How the **GLO-BUS** Exercise Works



GLO-BUS is a computer-based exercise modeled to reflect the real-world character of the globally competitive digital camera industry in which you run a company in head-to-head competition against companies run by other class members. Company operations are patterned after those of actual digital camera enterprises. Cause-effect relationships and revenue-cost-profit relationships are based on sound business and economic principles. **GLO-BUS** puts you in a situation where you and your co-managers can apply what you have learned in business school and where you can be businesslike and logical in deciding what to do. Everything about your company and the industry environment you will operate in has been made as realistic as possible in order to provide you with a close-to-real-life managerial experience.

Each decision period in **GLO-BUS** represents a year. The first set of decisions you and your co-managers will make is for Year 6. As soon as you get to the screens, you should view/print a copy of the Year 5 Company Operations Reports and review your company's operating results. You and your co-managers will make decisions each period relating to the design and performance of the camera line (10 decisions), production operations and worker compensation (15 decisions), pricing and marketing (16 decisions), corporate social responsibility and citizenship (up to 6 decisions), and the financing of company operations (4 decisions). In addition, there is accounting and cost data to examine, import duties and exchange rate fluctuations to consider, and shareholder expectations to satisfy. **Video Tutorials for each decision screen will help you get started.**

Complete results of each decision period, including a detailed assortment of industry and company statistics and competitive intelligence reports on the market activities of rival companies, become available online **about 20 minutes** after the deadline for each decision round. Information in the latest Company Operating Reports and two reports containing industry-wide statistics serve as the basis for meeting with your co-managers to agree upon any strategy changes and make a revised set of decisions for the upcoming period.

The decision schedule developed by your instructor indicates the number of decision periods that you and your co-managers will be running the company. You should use the practice decision(s) to become familiar with the software, digest all the information provided on the screens and in the reports, and get a glimpse of what to expect before your management team's decisions start to count. All of the decision screens and the report screens have Help buttons linked to detailed explanations of what the various numbers mean, descriptions of cause-effect relationships in some detail, and advice and guidance on what to think about—**the Help sections and Video Tutorials will answer most every question you have.**

Anytime-Anywhere Access. You and your co-managers *can access all aspects of GLO-BUS at any time from any computer* connected to the Internet, provided the computer has a Web browser (such as Chrome or Internet Explorer or Firefox or Safari) and Flash 10.3 (or later)—in the event your computer does not have the needed version of Flash already installed, you will be automatically directed to the Flash site where the latest version can be downloaded and installed free of charge in a few minutes. When you go to your “Corporate Lobby” page at www.glo-bus.com and click on the Decisions and Reports link, *GLO-BUS* automatically links you directly to all of the screens for entering decisions and viewing reports. When you are ready to exit a session and want to save any work you have done on the decision entry screens, simply click the Save icon and all your decision entries will be saved in your company’s files on the *GLO-BUS* server. *The last set of decision entries saved to the GLO-BUS server when the deadline for a decision round arrives will be used to generate the results for all companies and the industry as a whole.*

The Corporate Lobby screen where you accessed this Participant’s Guide functions as your “gateway” for all *GLO-BUS* activities—it has links to the decisions and reports menu, recommended decision procedures, the decision schedule, the two accompanying quizzes, the peer evaluations, and so on. Plus the Corporate Lobby screen reports the latest interest rates and exchange rate impacts. Take a couple of minutes to familiarize yourself with the features and information on your Corporate Lobby screen, all of which will come into play during the exercise. The recommended decision procedures link is especially worth a few minutes of your attention.

Your Company’s Operations

Your company, headquartered in the U.S., began operations five years ago and maintains a production facility in Taiwan. It assembles all of its cameras at a modern facility in Taiwan and ships them directly to camera retailers (multi-store chains that sell electronics products, local camera shops, and online electronics firms) located in Europe-Africa, Asia-Pacific, Latin America, and North America. The company maintains regional sales offices in Milan, Italy; Singapore; Sao Paulo, Brazil; and Toronto, Canada to handle the company’s sales and promotion efforts in each geographic region and help support the merchandising efforts of area retailers who stock the company’s brand. Retailers endeavor to maintain ample inventories of camera models in their own stores and warehouses to satisfy shopper demand.

Seasonal Production and Seasonal Demand. Camera demand is seasonal, with about 20 percent of consumer demand coming in each of the first three quarters of each calendar year and 40 percent coming during the fourth-quarter holiday season. Retailers place orders for digital cameras roughly 90 days in advance of expected sales, so as to have ample numbers on hand to satisfy camera buyer demand in the upcoming quarter. Thus, during Quarter 1 they place orders for the cameras they expect to sell in Quarter 2; during Quarter 2 they place orders for the cameras they expect to sell in Quarter 3, during Quarter 3 they place orders for the cameras they expect to sell in the peak holiday season fourth quarter; and in Quarter 4 they order the number of cameras they expect to sell in Quarter 1 of the following year.

The company assembles cameras within 30 days of the receipt of a retailer's order and ships them the day they are assembled; cameras assembled and shipped in one quarter are available for sales by camera retailers the following quarter. No camera models are assembled in advance, warehoused in company facilities, and then used to fill incoming retailer orders. Because retailer orders are highest in the third quarter of each year in preparation for fourth quarter peak sales, the company peak assembly period comes in Quarter 3. The seasonal pattern of camera assembly and retail sales is shown below:

| | <u>Quarter 1</u> | <u>Quarter 2</u> | <u>Quarter 3</u> | <u>Quarter 4</u> |
|---|------------------|------------------|------------------|------------------|
| Percentage of annual number of cameras assembled by camera makers, based on incoming retailer orders | ~20% | ~20% | ~40% | ~20% |
| Percentage of annual retail unit sales of cameras at retail | ~20% | ~20% | ~20% | ~40% |

Assembly and Shipping. The company has a staff of people engaged in new product R&D, engineering, and design; this group has the capability to develop new and improved camera models as directed by top management. Once co-managers settle on the desired specifications and performance features for the company's line-up of camera models, the needed parts and components are obtained from suppliers having the capabilities to make deliveries to the company's Taiwan assembly plant on a just-in-time basis. Cameras are assembled by four-person product assembly teams (PATs) at well-equipped workstations. Shipping department personnel ready retailers' orders for shipment and stack them on the loading dock for pickup by independent freight carriers. The cameras are delivered anywhere from 3 days to 3 weeks later, depending on a retailer's location and the means of transportation. The cost of boxing the cameras, packaging them for shipment, and freight averages \$3 per camera. Many countries have import duties on cameras; import duties in each of the four geographic regions currently average \$5 for entry-level cameras and \$10 for multi-featured cameras. Import duties are subject to change in upcoming years.

Competitive Efforts. To capitalize on advances in digital technology and keep its cameras appealing to consumers, the company from-time-to-time introduces new and improved models, adds performance features, restyles its camera bodies or housings, and upgrades the internal camera software. Aside from company efforts to make its cameras lines appealing and competitive with those of rival companies, the company's sales volume and standing in the marketplace is affected by the prices at which it sells its cameras to retail dealers, advertising expenditures, the number of retail dealers it is able to attract to carry its brand, the number and length of quarterly promotions, the size of the price discounts offered to retailers during these promotions, the length of the warranty periods on its cameras, brand image and reputation, and the caliber of the technical support provided to its digital camera users.

Stock Listings. The company's stock is publicly traded on the NASDAQ exchange in the United States and on several other stock exchanges. The closing price in Year 5 was \$30 per share. The company's financial statements are prepared in accord with generally accepted accounting principles and are reported in U.S. dollars. The company's financial accounting is in accord with the rules and regulations of all authorities where its stock is traded.

The Worldwide Market for Digital Cameras



The industry your company competes in consists of 4, 8, or 12 companies, depending on class size and the number of co-managers assigned to each company. All companies begin the *GLO-BUS* exercise in fundamentally the same competitive market position—equal sales volume, global market share, revenues, profits, costs, product quality and performance, brand recognition, and so on. All companies are on an equal footing from a global perspective, but there is one essential difference in the competitive positions of rival companies—the percentage of cameras being sold in the four geographic regions (Europe-Africa, Asia-Pacific, Latin America, and North America) are not identical from company-to-company, as shown below:

| | Percentages of Company Sales Volume in | | | |
|---|--|-------------------|-------------------|-------------------|
| | North America | Europe-Africa | Asia-Pacific | Latin America |
| One-fourth of the companies (companies A, E, and I) | 40% of unit sales | 30% of unit sales | 20% of unit sales | 10% of unit sales |
| One-fourth of the companies (companies B, F, and J) | 10% of unit sales | 40% of unit sales | 30% of unit sales | 20% of unit sales |
| One-fourth of the companies (companies C, G, and K) | 20% of unit sales | 10% of unit sales | 40% of unit sales | 30% of unit sales |
| One-fourth of the companies (companies D, H, and L) | 30% of unit sales | 20% of unit sales | 10% of unit sales | 40% of unit sales |

In effect, each company presently has a strong market position in one region, intermediate market positions in two regions, and a weak market position in one region. So there are important market share differences among the companies in the industry within each geographic region of the world camera market. In upcoming years, company managers can undertake actions to alter their sales and market shares in all regions, opting to increase sales and share in some and to decrease sales and share in others.

Market Growth. The global market for digital cameras is *reliably* projected to grow 8-10% annually for the next five years (Years 6-10) and then to grow at a slower 4-6% annual rate during the following five years (Years 11-15). These projected growth rates apply to all four geographic regions and to both entry-level and multi-featured cameras. However, in any one year, the growth rate in each region can deviate from the 9% average for Years 6-10 and the 5% average for Years 11-15 by as much as 1% in either direction, with different size deviations for each region. The same goes for the projected growth rates for entry-level and multi-featured digital cameras. Hence, there's an element of uncertainty surrounding just where within the 8-10% range and the 4-6% range the growth rate for a particular year will actually fall—for either a given geographic region or a particular type of camera.

Ratings of Digital Camera Performance and Quality. The World Digital Camera Federation, a well-respected affiliation of camera industry trade groups and camera experts, tests the performance and quality of the camera models of all competitors and assigns a performance-quality or P/Q rating of ½ to five stars to each company's entry-level camera line and multi-featured camera line. Currently, both the entry-level and multi-featured camera lines of all competitors have a 2½ star P/Q rating. Spirited competition among rivals is, however, likely to result in different P/Q ratings in forthcoming years.

Digital Camera Retailers. Worldwide, there are some 50,000 retailers of digital cameras scattered across the world—each of the four major geographic regions of the world market has 12,500 retailers, some of which are multi-store retail chains (100 per region), online electronics retailers (400 per region), and local camera shops (12,000 per region). Retailers with store locations that also sell cameras on their websites are not included in the online category. Multi-store chains account for the biggest percentage of entry-level camera sales, with online retailers second; local camera shops account for the biggest share of multi-featured digital camera sales, with online retailers second. Retail markups over the wholesale prices of digital camera-makers run 50% to 100%; thus an entry-level digital camera wholesaling for \$160 could retail for \$300 or more and a multi-featured cameras wholesaling for \$360 might carry a retail list price of \$700 plus. Such markups give retailers the latitude to put digital cameras on sale from time-to-time at 10% to 20% off regular price and still make a decent profit margin.

Retailers typically carry anywhere from 2-4 brands of digital cameras and stock only certain models of the brands they do carry, but in all four geographic markets there are around 20 “full-line” camera retailers that stock most all brands and models. Chain-store retailers are drawn to carry the best-selling brands and mainly stock entry-level cameras. The makers of weak-selling camera brands have difficulty convincing major retail chains to devote display space to their models. Local camera shops and online retailers are, however, more amenable to stocking and promoting low-volume brands, especially those with above-average P/Q ratings and respected brand images.

Local camera shops and online electronics retailers devote a much of their merchandising effort to multi-featured digital cameras because of their bigger profit margins. In the multi-featured camera segment, local camera shops enjoy an advantage over online retailers because many multi-featured camera shoppers prefer to “touch and try out” the functioning of the multi-featured cameras they are considering and seek out the opinions of camera-savvy personnel in local camera shops before finalizing their purchase. In choosing which brands of multi-featured cameras to carry and feature in their local ads, local camera shop owners put a fairly heavy weight on P/Q ratings, warranties, brand image, and the number, length, and price discounts of manufacturers' promotional discounts. Online retailers use essentially the same criteria in deciding which multi-featured camera brands to give top-billing and search priority on their websites.

Digital Camera Buyers. Digital camera shoppers are generally quite knowledgeable; many do extensive Internet research to educate themselves about the features, performance, and prices of competing digital camera brands and models. The World Digital Camera Federation's much publicized P/Q ratings are

trusted by camera shoppers; its frequently-visited website has detailed information concerning the results of its performance tests and the basis for its P/Q ratings of each camera brand. Both camera makers and online electronics retailers have extensive information on their websites about currently available models; numerous websites and publications review new and improved camera models as they are introduced by manufacturers.

The buyers of entry-level digital cameras are considerably more price sensitive than multi-featured camera buyers and many do comparison-shopping on price in selecting which brand to purchase. The purchasers of multi-featured cameras are much more particular about camera performance and picture quality. Many price-sensitive consumers shopping for their first digital camera are inclined to wait to make a purchase until electronics retailers have special sales promotions and offer entry-level camera models at sizable discounts off the regular retail price. It is common for camera retailers to also have special sales promotions for overstocked multi-featured models.

The Competitive Factors That Drive Market Share



Competition among rival camera makers centers around 11 sales-determining factors:

1. **How each company's wholesale selling price (for both entry-level and multi-featured cameras) compares against the corresponding industry-wide average price in each geographic region.** Other competitive factors being equal (P/Q rating, advertising, model selection, special promotions, and so on), the more a company's wholesale price in a geographic region exceeds the geographic industry average, the more that camera shoppers in that region will be inclined to shift their purchases to lower-priced brands. Similarly, charging a wholesale price that is below the geographic market average raises a company's potential for above-average units sales and market share unless the effects of a lower price are negated by a sub-par P/Q rating, comparatively few models for buyers to choose among, low advertising, fewer retailers carrying and displaying your brand of cameras, and other factors that matter to buyers. However, *price is a much bigger factor in the entry-level segment than in the multi-featured segment*; the users of multi-featured cameras are more concerned about picture quality and performance features than they are about price. Above-average prices for either entry-level or multi-featured cameras can be partially or wholly offset with a higher P/Q rating, increased advertising, more special promotions with attractive discounts off regular price, longer warranties, and so on. But the further a company's wholesale prices are above the industry average in a geographic market, the harder it is for a company to use non-price enticements to overcome rising buyer resistance to higher retail prices for its camera models. Likewise, the further a company's wholesale price is below the industry average in a geographic region, the easier it becomes to offset disadvantages relating to lower P/Q ratings, shorter warranties, fewer models, and so on.
2. **P/Q ratings.** The vast majority of digital camera shoppers consider the widely-available and much-publicized annual P/Q ratings compiled by the World Digital Camera Federation to be a trusted measure of digital camera performance and quality. The WDCF's ratings have 10 intervals, ranging from a low of ½ star to a high of 5 stars. Separate P/Q ratings are developed for each company's entry-level camera line and multi-featured camera line. Market research indicates that the P/Q ratings are generally the second or third most important factor in shaping consumers' choices of which entry-level camera brand to purchase; P/Q ratings tend to be the most important factor in the multi-featured segment. The WDCF's P/Q ratings are based on an array of factors: (1) the quality of a camera's core components (image resolution as measured by the number of megapixels, size of the LCD display screen, and lens quality/zoom capabilities), (2) color quality of the pictures, (3) camera controls/menu software, (4) camera body ergonomics/durability, (5) accompanying camera accessories (such as capacity of flash memory card, rechargeable batteries, a plug-in battery-charger, and carrying case) (6) special utility features (flash operation, photo editing capability, media ports, and so on), (7) the number of models, (8) a company's cumulative spending on new product R&D, engineering, and design, and (9) the amount a company spends on training its production assembly teams and the accuracy of its assembly methods. Greater numbers of models act to slightly weaken a company's P/Q rating for its whole entry-level or multi-featured lineup because of increased opportunities for cross-model inconsistencies in performance and assembly quality.

3. ***The number of special promotions each quarter.*** Special manufacturer promotions are of interest to retailers stocking the company's models because they call attention to the brand, spur consumer interest and store traffic, and generally result in higher unit sales.
4. ***The length of the special quarterly promotions (in weeks).*** Longer promotion periods are generally welcome because promotions lasting only one or two days do not give many buyers a big enough window to squeeze in a shopping trip and make a purchase.
5. ***The size of the discounts off the regular wholesale price during these promotions.*** The size of the discounts off regular price is a key factor in determining the effectiveness of any special promotion. Special promotions involving sale prices of 15 or 20% off the regular price result in bigger gains in sales volume than promotions offering only 5 or 10% discounts. Retailers that are offered, say, a 15% discount off the regular wholesale price during special manufacturer's promotions can be counted on to pass the savings along to consumers in the form of corresponding sale prices of 15% off the regular retail price. Promotional discounts off regular price spur purchases from price-conscious shoppers.
6. ***Advertising expenditures.*** Media advertising is used to inform the public of newly introduced models and styling and to tout the company's brand. Even though retail dealers act as an important information source for customers and actively push the brands they carry, advertising on the part of camera-makers strengthens brand awareness, helps pull buyers into retail stores carrying the advertiser's brand, and informs people about the features and prices of their latest digital camera models. The competitive impact of advertising depends on the size of your company's current-year advertising budget. A company's market aggressiveness in promoting its lineup of models and styles in a given geographic area is judged stronger when its annual advertising expenditures *exceed* the region average and is judged weaker the further its ad budget is *below* what rival companies are spending on average. ***Other competitive factors being equal, companies with above-average current-year advertising expenditures will outsell companies with below-average current advertising expenditures.***
7. ***Product selection, as measured by the number of models in each line of cameras—entry-level and multi-featured.*** Companies with an above-average number of models enhance their company's competitiveness in the marketplace by giving camera buyers wider product selection and thus more opportunity to find a model well suited to their preferences. Companies with comparatively few models risk losing sales and market share to competitors offering greater selection, unless they offset their narrower selection with other appealing competitive attributes (a lower price, a higher P/Q rating, more advertising, longer special promotions, etc.).
8. ***The numbers of retailers carrying the company's brand.*** A company's sales and market share in a geographic market are heavily influenced by the number and type of retailers it can convince to stock its brand and display its models. In general, having more retailers selling the company's brand is better than having fewer retailers because of the added display exposure and the added convenience to camera buyers of being able to buy a given brand at more locations. *The number of retailers in a region desirous of carrying a company's brand in an upcoming year is based on four factors:* (1) the brand's prior-year shares of both entry-level and multi-featured camera sales in that region, (2) the maker's P/Q ratings for both entry-level cameras and multi-featured cameras, (3) a manufacturer's *cumulative* spending on advertising relative to rivals in the geographic region (which reflects the extent to which consumers in the region recognize the manufacturer's brand name), and (4) prior-year promotional activities on the manufacturer's part relative to rivals in the region (number and length of quarterly promotions and size of promotional discounts), which helps retailers generate store/website traffic and added sales. Chain store retailers place higher importance on entry-level brand share than multi-featured brand share, while local camera shops do the opposite, weighing a brand's multi-featured share more than highly than entry-level share. All retailers handling a company's brand sell both its entry-level and multi-featured models. Camera makers can decide to sell and ship cameras to all retailers in a region who indicate a desire to stock their brand or, for whatever reason, opt to restrict their retailer network to a lesser number.
9. ***The length of the manufacturer's warranty period.*** Camera buyers, of course, find longer warranties more appealing than shorter warranties. Other competitive factors being equal, a company with a longer warranty period will generate higher unit sales than a company with a shorter warranty period.

- 10. *The ease with which users of a company's digital cameras can obtain responsive technical support when they encounter difficulties.*** It is not uncommon for digital camera users to have a hard time understanding certain aspects of their digital cameras and need technical support beyond what they can glean from user manuals accompanying the camera at purchase (some users cannot locate their manuals). Manufacturers assume the burden of providing technical support to camera users rather than retailers. Technical support is delivered at the manufacturer's website in the form of online user manuals (with sometimes more detailed or clear explanations of how to resolve common problems), answers to FAQs, and responses to e-mail inquiries posed by camera users. The WDCF, while not expressly including technical support in its P/Q ratings, nonetheless has a section on its website that helps site visitors evaluate and compare the nature and availability of the technical support they can get from the various digital camera makers. Furthermore, a consumer's satisfaction with having used a camera maker's technical support services has a bearing on whether existing users will buy the same brand again should they upgrade or replace a previously-purchased digital camera.
- 11. *Brand reputation among buyers and retailers.*** Whenever a company's camera models become hot-sellers and capture a sizable market share in either the entry-level or multi-featured segment in a given geographic region, that brand of camera gains momentum and earns a market standing in the segment/region which carries over into the following year. For instance, if a company secures a 35% market share in entry-level cameras in Year 6 in Latin America, its reputation among Latin American camera shoppers as a top-selling brand and market leader in the entry-level camera segment provides an edge in retaining or growing its 35% share of the entry-level camera segment in Latin America in Year 7. *This brand name recognition and reputation effect is strongest for those companies that enjoy above-average market shares and thus are considered by both camera buyers and retailers to have relatively attractive products.* As a consequence, low-share brands confront an uphill struggle in winning *big* chunks of sales and market share away from high share brands *in a single year* (but it is definitely feasible for a low-share company that improves the appeal and competitiveness of its camera lineup to nibble away at the business of large-share rivals, stealing away 1 or 2 points of market share, maybe more, in one year). Brand name reputation also comes into play from a retailer perspective. As a rule, retailers are inclined to remain loyal to the camera makers they have established relationships with and to continue stocking much the same line-up of brands—unless and until customer enthusiasm for certain brands wane and they have reason to drop slower-selling brands in favor of brands gaining in popularity. Thus, unless some camera-makers move to make their camera offerings to buyers significantly more appealing than those of rivals, the carryover impacts of brand reputation create *some degree* of market share stability within each geographic region.

With these 11 competitive determinants of sales and market share in play in each camera segment in each geographic region, you and your co-managers have many options for crafting a strategy capable of producing good profits and return on investment and keeping your company in contention for global market leadership. For example, you can

- Employ a low-cost leadership strategy and pursue a competitive advantage keyed to having lower costs and selling your digital cameras at lower prices than rivals.
- Employ a differentiation strategy that sets your company's digital cameras apart from rival brands based on such attributes as a higher P/Q rating, more models/styles to select from, and such marketing attributes as more advertising, longer warranties, more promotions, better technical support for owners of your digital cameras, or a bigger network of retail outlets carrying the company's brand.
- Employ a more value for the money strategy (providing 4-star digital cameras at lower prices than other 4-star brands) where your competitive advantage is an ability to incorporate appealing attributes at a lower cost than rivals.
- Focus your strategic efforts on being the clear market leader in either entry-level cameras or multi-featured cameras.
- Focus your company's competitive efforts on gaining sales and market share in those geographic markets where your company already has high sales and deemphasize sales in those areas where your company has a comparably low market share or where profit margins are relatively low.

- Pursue essentially the same strategy worldwide or else have regional strategies tailored to match the differing competitive conditions and actions of rivals in North America, Europe-Africa, the Asia-Pacific, and Latin America.
- Focus your company's competitive efforts on those regional markets where sales are highest or most profitable and either deemphasize or withdraw from one or more geographic areas where market share is low and/or profit margins are small.

GLO-BUS has no built-in bias that favors any one strategy over all the others. Most any well-conceived, well-executed competitive approach is capable of succeeding, ***provided it is not overpowered or foiled by the strategies and actions of your competitors.***

How GLO-BUS Determines Each Company's Unit Sales and Market Shares. Your company's sales and market shares in each geographic region depend totally on how your company's competitive effort in that region (as measured by the combined impact of the decision entries you make for the above 11 competitive factors) stacks up against the combined competitive efforts of rivals. Thus, what drives the success or failure of any one company's strategy in the marketplace is its competitive power vis-à-vis the strategies of the other companies in the industry. Sales and market share differences between companies are *not* governed by predetermined quantitative relationships programmed into the software or other mystery factors. ***There's no hidden winning strategy or competitive approach for you to discover—sales volumes and market shares are based totally on the competitive appeal and attributes of your company's digital camera offerings versus the appeal and attributes of rivals' camera offerings.***

So that you can understand the importance of what is being said here, consider the following question: How many more entry-level cameras can my company expect to sell in the Asian-Pacific market if we increase our advertising by \$1 million annually? The correct answer to the question is ***not*** some predetermined value (say, 50,000 cameras) that has been programmed into ***GLO-BUS*** and that specifies if a company increases its advertising by \$1 million annually then its sales of entry-level cameras will rise by x units. Rather, the correct answer to the question is “Well, it all depends.” Here's why “it all depends” is the logical and realistic answer in a competitive marketplace. Suppose, *all other things remaining equal*, your company increases its advertising in the Asian-Pacific market by \$1 million and your rivals change none of their prior year's decisions; then, indeed, your company's unit sales will rise by, say, x units (based on algorithms contained in the ***GLO-BUS*** software). But, if in the same year when your company increases advertising by \$1 million several rivals decide to raise their advertising by \$500,000 in the Asian-Pacific market (all other competitive factors remaining the same), then your company's sales will rise by a lesser amount, say, y units. And, should several rivals elect to boost their advertising in the Asian-Pacific by \$2 million, your company's \$1 million advertising increase would result in an even smaller sales gain say, z units (and your company's sales could actually *decline* if most all rivals upped their advertising by \$2 million). So, just how many extra units your company will sell as a result of increasing advertising by \$1 million in the Asian-Pacific market “all depends” on the full range of competitive efforts of rivals—and this includes actions not only with respect to their advertising levels but also with respect to price, number of models, technical support, promotional activities, and so on. The “Well, it all depends” answer also applies to the impacts on unit sales and market share for all other moves you and your co-managers might make—such as raising/lowering prices, lengthening/shortening warranties, adding/deleting models, or achieving a higher/lower P/Q rating.

In ***GLO-BUS***, the algorithms used to determine how many cameras each company sells in each geographic market are based on a company's competitive effort relative to the industry-average effort in the geographic region, competitive factor by competitive factor. A company's combined competitive effort (on all 11 measures described above) relative to the combined industry-average effort is the driver of a company's unit sales and market share. And, just as in the real world, all 11 measures are far from equal in their impact. While knowing what weights ***GLO-BUS*** places on each of the 11 factors might seem helpful, such knowledge is not as helpful as you might expect. Here's why. Price is clearly a very important competitive factor—the most important factor in the entry-level camera segment. ***But if every company has a wholesale selling price of \$160 for its entry-level cameras in North America, price is rendered completely neutral (or powerless) in determining the sales and market share differences among the competing***

companies. All the sales and market share differences that result then become attributable to the differing competitive efforts among the other 10 competitive measures. So which factors turn out to be most important in accounting for unit sales and market share differences among rival camera-makers, in effect, turns on how each company's competitive effort stacks up against the industry-average competitive effort, measure-by-measure, with big differences above/below the industry-average mattering as much (and usually more) than the relative weights **GLO-BUS** places on the 11 measures.

Just as in the real world where there is no book of answers telling managers what is most important and what is less important, there are no answers here either—you will have to study the global camera market, try to match wits with rivals and anticipate their moves, and discover what works and what doesn't in trying to out-compete them. Common sense suggests that such competitive factors like price, P/Q rating, and promotional discounts are quite likely to weigh in more heavily than competitive factors like tech support or number of models. You should anticipate that the weights **GLO-BUS** places on the competitive factors roughly approximate what might actually prevail in the real-world marketplace for digital cameras.

Thinking Strategically: The Importance of Trying to Out-Maneuver Rivals. In striving for gains in unit sales and market share, you must be most concerned with what combination of price, P/Q rating, advertising, promotional activities, model count, warranties, and so forth it may take for your company to achieve the sales volume and market share that you have targeted, *given the prices, P/Q ratings, advertising, model counts, warranties, and so on you believe that rivals, on average, will utilize in their own behalf to win the unit sales and market shares they are targeting.* Just as you are trying to take sales and market share away from your rivals, rivals are striving to take sales and market share away from you.

GLO-BUS involves a battle of strategies in a competitive marketplace, where the key to success is watching rivals' actions closely, anticipating their next moves, and then making competitive moves and decisions of your own that hold good prospect for delivering the intended results. As you will soon discover, **GLO-BUS** provides Competitive Intelligence Reports containing prior-period prices, P/Q ratings, advertising, and so forth for every company in your industry—you'll be able to see exactly what rivals did to capture the sales and market shares they got. Armed with this information, you will be in pretty good position to figure out some of the things they are likely to do in the forthcoming decision period. Just as in sports where it is customary for every team to scout its next opponent thoroughly and develop a game plan to defeat them, so also in **GLO-BUS** you are called upon to scout the strategies of rivals, try to judge what new strategic actions and decisions they will make next, and then craft a competitive strategy of your own aimed at "defeating" their strategies and boosting your company's overall performance. You have to stay on top of changing market and competitive conditions, try to avoid being outmaneuvered and put into a competitive bind by the actions of rival companies, and strive to ensure your two lines of cameras are priced and marketed in a manner that produces good company performance.

In short, how well your company performs in the **GLO-BUS** exercise will depend on how competitive and appealing your cameras are to buyers relative to the camera offerings of rival companies. **GLO-BUS** is all about practicing and experiencing what it takes to develop winning strategies in a globally competitive marketplace. When the exercise is over, the only things separating the best-performing company from those with weaker performances will be the caliber of the decisions and strategies of each company's management team. All that the **GLO-BUS** software does in processing the decisions of the companies is to referee the competitive contest and declare whose strategies and decisions produced the best outcomes.

Making Decisions



As indicated earlier, there are 45 different decision entries. Some of these entries require decisions for both entry-level and multi-featured cameras, and some involve decisions entries for each of the four geographic regions of the world market. Each of the 7 decision screens includes a set of built-in calculations of the projected outcomes of your decision entries. These calculations appear instantaneously as soon as each decision is entered, allowing you to isolate the incremental impacts of each decision, decision-by-decision. At the bottom of each decision screen are two lines of calculations showing projected revenues, net earnings, earnings per share of common stock, return on investment, credit rating, image rating, and change

in cash position from the prior year—these instantly updated calculations allow you to see how each decision entry affects overall company performance. You will find all of the built-in decision support calculations invaluable in evaluating alternative decisions and deciding what to do. You can easily and quickly try out any number of “what-if-we do this” decision alternatives, review the assortment of projected on-screen outcomes, and thereby search for a combination of decision entries that appears to offer the best overall performance and meets with the approval of you and your co-managers.

The first time you visit a decision screen, you will need to take time to explore the screen and digest all the information. ***If you feel the need for additional information while you are working on a particular screen, just click on the help link that appears in the screen title section.*** The Help screens provide detailed decision-by-decision guidance, including explanations of all the on-screen calculations.

Each time you visit the decision screens, the numbers you will see in the decision entry boxes on the screen represent ***either*** (1) the decisions made for the prior year ***or*** (2) the latest decisions you and/or your co-managers saved in the course of having previously worked on the upcoming year's decision. No decision entry for the upcoming year is considered final until time expires for the decision. ***GLO-BUS considers the last decision entries saved to the server at the time of the decision deadline as “final” and will immediately proceed with processing the decisions*** and making the results available to all companies and the instructor. Thus, it is critical that you and your co-managers save the decisions you want to be used to the ***GLO-BUS*** server in time to meet the deadline.

Product Design Decisions

The product design screen involves deciding on the caliber of the components to incorporate in your entry-level and multi-featured camera lines, the special utility features to be built into the cameras (flash operation, photo editing capability, media ports), the number of models to have in each line (the minimum is 1 and the maximum is 5), and how much to spend on new product R&D, engineering, and design. The decisions here are important because they determine the P/Q rating the WDCF will assign to your camera lines and have a major bearing on production costs (component costs are far and away the biggest driver of cost per camera). The better the caliber of the components used, the better a camera's performance and quality (but the higher the production costs). As decisions are entered relating to components, special utility features, and number of models, you can review the on-screen calculations of the resulting year-end P/Q ratings and the costs per unit produced to determine which combination to go with.

All core components (the image resolution module, LCD display screen, lens quality/optical zoom) are purchased from outside suppliers; these suppliers sell essentially the same core components at the same prices to all camera makers. However, advances in low-cost digital technology, coupled with greater ability of suppliers to achieve production economies in the manufacture of image resolution modules, display screens, and lens are resulting in steadily lower market prices for these three components. ***You can expect that the prices your company pays its suppliers for these three core components in upcoming years will decrease 5% annually, starting in the first quarter of Year 7.***

Some brand-specific components (the imaging part that determines color quality, flash memory cards, batteries, battery charger, and carrying case) are also purchased from outside suppliers who have multiple items across a range of prices for companies to choose from in designing their brand of cameras. Camera bodies and camera controls are obtained from a contract supplier that works closely with company personnel to provide distinctive camera body styling tailored to each of the company's models and help distinguish the company's models from those of rival brands. The menu software incorporated in entry-level cameras and multi-featured cameras is developed by outside software developers; the same entry-level software is used in all entry-level models and the same multi-featured software is used in all of the company's multi-featured cameras. You and your co-managers can choose from the array of brand-specific components, paying whatever amounts for these items that you see fit.

You can have up to 8 special utility features for entry-level cameras and up to 16 special features for multi-featured cameras. The costs of special utility features vary with the number selected (there are calculations on the screen showing how much a particular number of special utility features will cost per camera). Just as for core components, ***the costs of special utility features tend to decline 5% annually.***

Prior management elected to have a product line-up consisting of 3 entry-level models and 3 multi-featured models. While there's merit in trying to expand sales by adding more models, the addition of more models introduces quality control difficulties in assembly and temporarily reduces the number of cameras that production assembly teams (PATs) can assemble in a quarter/year. PATs cannot assemble 8 models as proficiently and as problem-free as they can assemble the current 6 models. You'll find that the addition of more models tends to increase warranty costs because of faulty camera assembly and consequent problems that buyers will encounter during the warranty period. Increasing the number of models in a given year will reduce PAT productivity by 4% for each additional model *for a period of 1 year*—until team proficiency in assembling the new model builds (the 4% per model productivity penalty disappears after 1 year). Reducing the number of models tends to boost productivity by 2% for each model dropped because teams have fewer assembly procedures to master and less model change-over time.

In Year 5, prior management spent \$2 million on new product R&D, engineering, and design for its activities related to entry-level cameras and \$4 million for like activities related to multi-featured cameras. You and your co-managers will need to consider whether to adjust spending for new product R&D, engineering, and design in the years to come. Such expenditures (as they accumulate over time and build the company's camera R&D, engineering, and design proficiencies) act to (1) boost a company's P/Q rating, (2) reduce warranty claims and costs, and (3) increase the speed and ease with which your cameras can be assembled. There are separate spending entries for entry-level and multi-featured cameras so that you can direct spending on R&D, engineering, and design to whichever lines of cameras you and your co-managers see fit. It takes all four quarters for the amounts spent on new product R&D to produce the full benefits on the P/Q rating; in other words, spending \$4 million on new product R&D translates into an effort of \$1 million per quarter and any projected change in the P/Q rating, say from 2½ stars to 3 stars, will occur gradually over the four quarters of the upcoming year rather than all at once at the beginning of the year. It may take a significant increase in spending for new product R&D, engineering, and design to boost the P/Q rating by even ½ star because the P/Q rating is chiefly a function of the caliber of the 7 components and the number of special utility features.

Marketing Decisions

The second decision screen displays 16 sales and marketing decisions. The first group of decision entries relates to the number of available retail dealers that you want to include in your dealer network. On the screen, you will see the number of retail chains, online retailers, and local camera shops in each geographic area that are willing to stock and display your brand of digital cameras in the upcoming year—this number is based on the prior-year's appeal of your company's camera models and *there's nothing you can do in the upcoming year to attract additional retailers*. The company's four regional sales offices (Milan, Singapore, Sao Paulo, and Toronto) incur costs of \$10,000 annually in recruiting and supporting the digital camera sales efforts of the chain-store retailers handling the company's brands. Support costs for each online retailer stocking the company's cameras are \$4,000 annually, and support costs for each local camera shop that carries the company's cameras is \$200 annually. Worldwide retailer support costs to support the 8,288 dealers stocking the company's cameras in Year 5 were about \$3.3 million. However, if, for any reason (perhaps to cut back on retailer support costs), you do not want to ship cameras to all of the retailers currently willing to merchandise your cameras, then you have the flexibility to drop retailers and restrict deliveries to a smaller number of retailers.

All of the remaining decision entries on the market decisions screen are straightforward and the Help screens provide an assortment of useful details. But there are several factors to keep in mind in deciding upon the sales and marketing effort to employ:

- The size of your company's technical support budget affects the caliber of technical support provided to people owning your brand of cameras. The more cameras your company sells, the bigger the technical support budget will need to be (in order to handle the likely rise in requests for technical support). To preserve or enhance the caliber of technical support provided to camera owners, the company's technical support expenditures *per camera sold* will need to remain constant or else rise slightly. Declines in technical support *per camera sold* signal a weaker commitment to good technical support.

- If your company's advertising exceeds the industry-average amount of advertising in a geographic region, then your company will enjoy a competitive edge over rivals on advertising in that region—a condition that boosts unit sales and market share. If your company's ad expenditures are below the industry-average, then your company is at a competitive disadvantage on advertising and will sell fewer units than would be the case at higher advertising levels (other competitive factors remaining equal). The same goes for the length of your company's warranty period, the number of quarterly promotions, the length of these promotions, and the size of the promotional discounts.
- How the wholesale prices of your company's entry-level and multi-featured cameras in a given region compare to the industry-average price in that region have a major bearing on unit sales and market share at retail. *You can see the projected effect on unit sales of a change in wholesale price by watching how much the projections of retail demand and market share change when you enter a higher or lower price*—a higher/lower wholesale price translates into a higher/lower retail price since retailers try to maintain a fairly constant markup over the wholesale prices they have to pay digital camera makers. While lower prices tend to boost retail sales volumes (assuming other competitive factors are not reduced), lower prices can narrow profit margins and lead to a decline in total profit (because the gain in revenue attributable to a higher unit volume is insufficient to overcome the revenue erosion associated with a lower price on all units sold). The on-screen calculations provide instant feedback on the revenue-profit impacts of higher/lower prices.
- You have the option of 0 to 3 special promotions each quarter, with promotion periods ranging in length from 1 week to 4 weeks. Since there are 13 weeks in a quarter, having 3 quarterly promotions of 4 weeks each amounts to having your cameras on sale 12 out of every 13 weeks—a potentially excessive amount since the resulting promotional price in effect becomes the every-day price. However, such a promotional strategy is allowed, should you desire.
- Promotional discounts can range anywhere from 0% to 20%, with bigger discounts obviously having bigger impacts on projected retail demand and market share. The effects of the promotional discounts are automatically taken into account in calculating the on-screen projections of revenues and profits. So the revenues numbers are really net revenues, after any and all price discounts are taken into account. You'll quickly see (by trying out different decision entries for number and length of promotions and promotional discounts) that these decisions can have a sizable impact on the projections of unit sales, market share, revenues, profits, and ROI. As a consequence, they are very important marketing decisions.
- You and your co-managers determine the length of the warranty periods for entry-level cameras and for multi-featured cameras. Longer warranties, while making your camera models more appealing to consumers, result in warranty claims over a longer period and boost warranty costs. The projected warranty claim rate and projected warranty costs associated with unit sales for the upcoming year are shown as on-screen calculations for both entry-level and multi-featured cameras. These projections, along with the revenue-cost-profit projections at the bottom of the decision screen and the impact of the warranty period on projected unit sales and market shares, provide good information for evaluating the pros and cons of changing the warranty period on either entry-level or multi-featured cameras.
- The on-screen projections of unit sales and market share are based on (1) the sales and marketing entries currently showing in the decision boxes for the upcoming year and (2) prior-year competitive efforts of rival companies. There's an element of uncertainty surrounding the retail demand and market share projections because they do not take into account any changes in the competitive efforts that rival co-managers may decide to make as they prepare their upcoming year's decisions and perhaps seek to boost unit sales and market shares at their companies. But unless rivals make substantial changes in their competitive efforts, such that the industry-average prices, advertising levels, P/Q ratings, and so on turn out to be significantly different from the prior-year industry-averages, you will find that the projections are **reasonably accurate** (generally within ± 5 to 10% of the actual unit sales at retail). If you believe that rival companies are likely to alter their competitive efforts, then you can click on the link on the left side of this screen, indicate the degree to which you believe competitive intensity will strengthen or weaken versus the prior year, and obtain a revised unit sales and market share forecast (click on the Help button for details on how to enhance the accuracy of your forecast).

Assembly Decisions

There are two decision screens relating to camera assembly—one for entry-level models and one for multi-featured models. The layout and content of the two screens are essentially identical, except for the numbers of cameras being assembled and the associated revenue-cost-profit data. Both screens entail decisions for how many units to assemble and ship in each of the 4 quarters of the year to retailers in each of the four geographic regions—Europe-Africa, Asia-Pacific, North America, and Latin America. The company tends to schedule camera production such that the number of units assembled and shipped in one quarter match expected retail sales in the following quarter. Thus, it produces 20% of expected annual sales in Quarter 1, 20% in Quarter 2, 40% in Quarter 3, and 20% in Quarter 4 to match expected retail sales of 20% of the annual total in quarters 1, 2, and 3 and 40% of the annual total in Quarter 4.

Cameras can be assembled internally by 4-person production assembly teams (PATs) working at both regular time and overtime (overtime production is at 1½ times the regular pay scale). The maximum number of units that can be produced at overtime is 30% of the number produced at regular time. The company also has arrangements with contract assemblers to handle the assembly of cameras that management decides not to produce internally at either regular time or overtime. The outsourcing arrangement with contract assemblers involves having the company's suppliers deliver the correct number and type of components to the contractor's assembly facilities and then paying the contractor a fixed fee of \$25 per camera assembled. Contract assemblers have agreed, as part of their \$25 per camera fee, to absorb any extra warranty costs your company incurs in the event that warranty claims on outsourced cameras run higher than the company's internally assembled cameras—this, in effect, means that the warranty claim rates are identical on outsourced cameras and cameras assembled internally. Contractors deliver all the cameras they assemble directly to the company's shipping dock for same-day shipment to retailers.

The first line at the top of each assembly screen shows quarterly retail sales projections (in 000s of units) based on the decision entries for marketing and product design. The second line shows how many cameras (in 000s of units) that retailers currently have in inventory. The difference between projected retail sales the following quarter and retailers' inventories equals the number of units that camera retailers are projected to order each quarter (most retailers prefer to maintain close to zero quarter-ending inventories so as to avoid getting caught overstocked). However, as explained above, the projected retail sales number is not a guarantee of actual sales; there is always some degree of uncertainty surrounding the sales projections because the actions and competitive efforts of rivals to gain sales and market share cannot be fully and accurately anticipated and because the actual market growth can vary between 8-10% for Years 6-10 and between 4-6% for Years 11-15.

Your arrangement with retailers allows you the flexibility to ship as many as 10% more units than projected orders for the quarter, an option you may want to exercise when retailer inventories are "low" and represent only a few days or weeks supply. Shipping additional units when retailers have low inventories has the *advantage* of avoiding lost sales because retailers run out of cameras to sell. But shipping more units than the projected order volume has the *disadvantage* (if actual retail sales turn out to be close to or below the projected volume) of reducing retailer orders the following quarter (as they try to sell off the inventory left over from the prior quarter) and causing bigger up and down swings in your quarterly assembly-shipping schedule. Accommodating ups and downs in retailer orders requires increasing/decreasing overtime usage and/or increasing/decreasing outsourcing and/or hiring/laying off PATs—all of which affects production costs per camera. We'll explain more about handling these issues when we get to the labor decision screen where PAT staffing, overtime, and outsourcing decisions are made.

The costs of boxing, packaging, and shipping cameras to retailers average \$3 per camera. Import duties in each of the four geographic regions, which presently run \$5 for entry-level cameras and \$10 for multi-featured cameras, can go up or down in the years ahead. The company absorbs the cost of import duties but passes them along to retailers in the form of higher wholesale prices.

Exchange Rate Adjustments. Exchange rate adjustments result from the fact that the company assembles, ships, and sells cameras in Taiwan (where the local currency is Taiwan dollars) to retailers in other parts of the world (where local currencies are different). The local currency payments the company receives must be converted into Taiwan dollars and ultimately into U.S. dollars (since the company reports its financial

statements in U.S. dollars and the company's stock is traded on U.S. stock exchanges). Further, the orders and shipments tend to occur in one quarter (when exchange rates are one value), yet retailers' payments are not due until the following quarter (when exchange rates are likely to be a different value). Thus the company's business is one with potentially significant foreign exchange risks. To help manage these risks, company officials have negotiated a long-term currency exchange agreement with the Global Community Bank through which the company does most of its business. The agreement calls for the bank's foreign currency department to handle the company's many foreign currency transactions. The essence of the arrangement calls for the net revenues the company actually receives on cameras assembled and shipped from its Taiwan assembly facility to retail dealers in various parts of the world to be subject to exchange rate fluctuations in four local currencies (the Singapore dollar, the euro, the Brazilian real, and the U.S. dollar) against the Taiwan dollar. More specifically:

- The net revenues the company receives from sales to retailers in Europe-Africa are adjusted up or down for exchange rate changes between the euro and the Taiwan dollar.
- The net revenues received from sales to Asia-Pacific retailers are adjusted up or down for exchange rate changes between the Singapore dollar and the Taiwan dollar.
- The net revenues received from sales to North American retailers are adjusted up or down for exchange rate changes between the U.S. dollar and the Taiwan dollar.
- The net revenues received from sales to Latin American retailers are adjusted up or down for exchange rate changes between the Brazilian real and the Taiwan dollar.

The following discussion explains how fluctuating exchange rates are treated in **GLO-BUS** and how the impact of exchange rate changes is calculated in adjusting the company's revenues up or down: In making sales to camera dealers in Europe-Africa, the company provides quotes of its wholesale prices to retailers in terms of both the retailer's local currency and in euros. Dealers, while making payment in their local currency (which can be either euros or some other denomination), agree when the order is placed to tie the amount of their local currency payment per camera to the local currency equivalent of that number of euros per camera—the company's global bank handles converting the local currency payments of Europe-Africa retailers into the equivalent of euros and then into Taiwan dollars at the appropriate exchange rates. Should the exchange rate of euros per Taiwan dollar fall from one decision period to the next, say from 0.0250 to 0.0249 euros per Taiwan dollar, then retailer payments of the agreed number of euros per camera at the time the order was placed equate to *more* Taiwan dollars at the time of payment and an *upward* adjustment in the company's revenues. Conversely, when the exchange rate of euros per Taiwan dollar rises, say from 0.0250 to 0.0251 euros per Taiwan dollar (meaning that a specified number of euros equate to fewer Taiwan dollars), then the company does not receive as many Taiwan dollars in payment for the cameras sold and shipped to Europe-Africa retailers and the revenue adjustment is *downward*. The size of the Europe-Africa revenue adjustment is equal to 5 times the actual period-to-period percentage change in the exchange rates of euros to Taiwan dollars (multiplying the actual % change by 5 is done so as to translate the exchange rate change over a few days into a change that is more representative of a potential full-period change). Thus, if the exchange rate between euros and Taiwan dollars should change by -0.40% from one decision period to the next, the size of the exchange rate adjustment will be -2.0% ($-0.40\% \times 5 = -2.0\%$). Because actual exchange rate fluctuations are occasionally quite volatile over a several day period, **GLO-BUS** caps the maximum exchange rate adjustment during any one year to $\pm 20\%$, thus limiting the size of gains and losses from exchange rate adjustments.

The procedures for adjusting revenues on sales to retailers in Latin America, Asia-Pacific, and North America are handled in like fashion. **GLO-BUS** is programmed to access all the relevant real-world exchanges rates and do all the pertinent calculations, thus relieving you and your co-managers from mastering the intricacies of the exchange rate adjustments. ***The sizes of the upcoming exchange rate adjustments (in dollars per camera) for the each quarter and each geographic region appear as on-screen calculations on the two Assembly Decisions screens.*** Since the sizes of the expected exchange rate adjustments in dollars per camera are known during the course of making the upcoming year's decisions, you and your co-managers can pursue actions to mitigate the adverse effects of unfavorable exchange rate adjustments. One option is to adjust sales and marketing efforts and shipments to retailers in a manner that results in (1) added sales in those areas where the exchange rate adjustments in per camera revenues are

positive (favorable) and (2) somewhat smaller sales in the regions where the exchange rate adjustments per camera shipped and sold are negative (unfavorable). Another option is to raise the wholesale selling prices in a particular region to help offset negative revenue adjustments and realize higher net revenue per camera shipped and sold. Because all digital camera makers have assembly facilities in Taiwan and are thus subject to comparable favorable/unfavorable exchange rate impacts on their camera revenues, you may be able to make offsetting price adjustments without much risk of putting your company at a price disadvantage. (The Help links on the two Assembly Decisions screens contain more details on the mechanics of the exchange rate adjustments and their managerial relevance in making decisions—consult them for more specific guidance on how to take advantage of the onscreen calculations of the exchange rate adjustments. It's really much easier than it sounds here.).

There will be no exchange rate adjustments in Year 6. The real-world exchange rate values prevailing at the time your instructor starts the industry and the real-world rates prevailing at the time of the decision deadline for Year 6 will serve as the base for calculating the Year 7 exchange rate adjustments per camera that are shown on the two Assembly Decisions screens. The real-world changes in the exchange rates between the Year 6 and Year 7 decision deadlines serve as the basis for exchange rate adjustments in Year 8. And so on through the exercise.

One final point about how the accounting procedures for exchange rates are handled in **GLO-BUS** is in order. Since the company's financial statements are reported in U.S. dollars, company accountants go through the necessary accounting procedures to accurately record and report the revenues collected in Taiwanese dollars in U.S. dollars and to otherwise accurately portray the company's financials in U.S. dollars. The procedures are in full compliance with generally accepted accounting procedures and have been approved by the company's auditors.

If you want to know more about the exchange rate calculations, you can click on the Assembly Decisions Help button and review the more extensive discussions of exchange rate adjustments there.

Compensation, Training, and Labor Force Decisions

This screen requires decisions on seven factors: (1) how much to raise/lower the base pay of PAT members, (2) whether to change each PAT member's incentive payment per camera assembled, (3) whether to alter the quarterly bonus for perfect attendance, (4) whether to increase fringe benefits, (5) how much to spend on training PAT members and improving PAT productivity, (6) how many PATs to employ in each quarter of the upcoming year, and (7) what use to make of overtime production (versus outsourcing the assembly of some cameras to outside contractors).

The productivity of each four-person PAT (that is, how many cameras they assemble in a given quarter or year) is influenced by 8 factors:

- *Annual base pay increases*—Annual increases in base pay of 2% or more lead to higher levels of productivity, chiefly because higher pay attracts and retains workers with better skills and work habits. The maximum annual base pay increase is 10%. Cuts in base pay are allowed, up to a maximum of 15% in any one year; as might be expected, base pay reductions act to reduce PAT productivity. Small pay cuts do not entail a big drop in productivity but cuts of 10-15% will have a major negative impact.
- *The size of the incentive bonus per camera assembled*—Higher incentive payments have the benefit of boosting productivity and reducing warranty claims. Prior management instituted the practice of paying each PAT an incentive bonus for each camera assembled, the thesis being that such incentives spur PAT members to improve their assembly skills and also work diligently to assemble more cameras per day. However, to discourage sloppy assembly (which could greatly increase warranty claims as well as generate buyer dissatisfaction), PATs are responsible for doing the warranty work and reconditioning the cameras sent in for repairs—workers are well aware that time spent performing warranty work reduces their time for assembling new cameras models and results in lost income from incentive payments. Thus far, PAT members have taken considerable pride in following assembly procedures that help reduce warranty claims. Currently, the incentive payment is \$1 per camera per PAT. Your and your co-managers will have to decide whether to continue incentive bonus payments and whether to raise/lower the incentive payment.

- *The size of the quarterly bonus for perfect attendance*—Absenteeism on the part of PAT members has a strong negative impact on the functioning and performance of the remaining team members. When less than four team members show up for work, a team's assembly procedures are disrupted; either people must be assigned to fill-in for the person(s) absent or else the team must try to proceed with assembling cameras as best it can. To discourage absenteeism, prior management instituted the practice of funding a quarterly bonus pool at the rate of \$50 per PAT member which is then distributed at the end of each quarter among those PAT members having a record of perfect attendance (missing as much as ½ day during a quarter constitutes disqualification for the bonus). Prior management believed this was a successful program since absenteeism has averaged less than 1% and overall productivity has been trending upward. However, you and your co-managers have the authority to discontinue the practice of paying a bonus for perfect attendance, to continue the program as is, or to raise the size of the bonus pool funding periodically as you see fit. It is up to you to determine whether diverting the \$50 quarterly contribution per PAT member to other types of compensation (such as bigger incentives or higher base pay) could lead to even better PAT productivity.
- *The size of the fringe benefits package that workers are provided*—PAT members and other company personnel view a good fringe benefits package (health insurance, disability insurance, term life insurance, and retirement plans) as an important part of their compensation package.
- *The total annual compensation of PAT members relative to the industry-average compensation levels*—How well your company's PAT members are being compensated relative to the base pay, bonus, and fringe benefit packages at rival companies is a major factor in the company's ability to attract and retain better-caliber, more productive employees. The best, most productive workers are inclined to leave jobs at lower-paying camera-makers for jobs at higher-paying camera-makers. Likewise, job seekers with desirable camera-assembly skills and that exhibit motivation, commitment, enthusiasm, pride of workmanship, work habits, and aptitudes for teamwork are drawn to work for those camera-makers having the best package of base pay, bonuses, and fringe benefits. As a consequence, PAT productivity tends to be higher at the industry's best-paying companies.
- *The amount the company spends quarterly on PAT training and assembly methods improvement*—Apart from compensation, the productivity of PATs is significantly affected by the effort the company exerts to train PAT members in better assembly techniques and to make improvements in workstation design. You and your co-managers have the authority to raise/lower quarterly spending for PAT training and assembly improvement. There are potentially significant gains in PAT productivity that can come from expenditures on PAT training and assembly methods. However, the benefits are subject to diminishing marginal returns from spending progressively more dollars on this program. If and when the resulting productivity gains become too small to justify spending additional sums, you can cut back spending without losing any of the previous build-up in productivity.
- *The cumulative amount spent on new product R&D, engineering, and design*—Such spending is, in part, aimed at designing the company's entry-level and multi-featured cameras in a manner that reduces the amount of time it takes PATs to assemble the company's camera models. Thus, company expenditures for product R&D, engineering, and design act to boost PAT productivity levels.
- *Changes in the number of models*—Increasing the number of models in a given year will reduce PAT productivity by 4% for each new model added, due to lower team proficiency in assembling more models and increased model change-over time. Reducing the number of models tends to boost productivity by 2% for each model dropped because teams have fewer assembly procedures to master and less model change-over time.

PATs assemble both entry-level and multi-featured cameras with equal speed and accuracy. There is no difference in productivity between the two types of cameras. As of year 6, PAT productivity was 10,000 cameras annually or 2,500 quarterly; this level of PAT productivity equates to assembling one camera about every 13 minutes. There is reason to believe that over the next several years PAT productivity can be increased to 12,000 cameras annually (3,000 quarterly), resulting in one camera being assembled in about 10 minutes. Productivity could go even higher, if managers aggressively pursue productivity gains.

Assembly Capacity, Facilities Expansion, and Workstation Additions. Your company's assembly area has capacity for 150 workstations. Additional space can be added at a cost of \$10 million for each increment of 50 workstations. Currently, the company has 100 workstations available for use. Additional workstations can be installed at a cost of \$75,000 each, up to a total of 150. Decisions to hire more than 150 PATs (and thus use more than 150 workstations) will automatically trigger a one-time \$10 million capital expenditure for additional workstation space and the standard \$75,000 capital expenditure for each new workstation needed. Likewise, once the first expansion is filled with 50 workstations and still additional workstations and PATs are desired, a second one-time \$10 million expenditure for additional assembly space sufficient to accommodate another 50 workstations is required in order to hire more than 200 PATs—this second expansion will permit the use of as many as 250 PATs. The company has enough land at the Taiwan facility to accommodate as many as 750 workstations (although it is highly improbable that you would ever need such a number). ***No more than 50 new workstations can be added in any one quarter and no more than one \$10 million space expansion can be undertaken in any one quarter.*** While space expansions take several weeks to complete, the assembly facility has enough extra storage area to accommodate the immediate delivery of additional workstations and set them up temporarily in the extra storage space until the expansion is completed; this gives you the flexibility to simultaneously undertake facilities expansion and gain the use of up to 50 new workstations in a single quarter. Fixed assets (primarily facilities, workstations, office equipment and furnishings) carry an average depreciation rate of 1% quarterly or 4% annually.

Hiring and Laying Off PATs. You can hire new PATs as needed, but there is a limit of adding more than 50 new workstations in any one quarter. Thus, unless you have unused workstations, the maximum number of *new* PATs you can hire in a quarter is 50. Going into Year 6, there are 100 workstations installed in the assembly area; only about 80 of these were utilized in the fourth quarter of Year 5 (all 100 workstations were used in the third quarter of Year 5, 20 of which were staffed with “temporary” PATs hired to help assemble cameras for the normal third-quarter seasonal peak production and shipment requirements).

To hire additional PATs, simply enter the desired number in the decision boxes for each quarter. To lay off PATs, enter a negative number (-2, -5, etc.). Laying off a “full-time” PAT (defined as a PAT which has been employed for 2 or more consecutive quarters) entails severance costs equal to 50% of annual base pay for each person laid off. PATs hired “temporarily” for just one quarter can be laid off without incurring any severance costs.

Using Temporary PATs. The company maintains an updated list of several hundred appropriately-skilled workers living within commuting distance to the company's assembly plant that it draw upon to staff “temporary” PATs. Temporary workers undergo training prior to and during the quarter they are employed and are able to assemble cameras at productivity rates equal to the company average. There are no severance costs associated with laying off temporary PATs—a temporary PATs is defined as a newly-hired PAT that is employed no longer than 1 consecutive quarter. Temporary PAT members receive the same compensation packages as full-time PAT members.

Scheduling Assembly for the Third-Quarter Seasonal Peak. Since the company assembles and ships about 40% of annual sales in the third quarter (in preparation for the strong fourth quarter retail sales), about twice as many cameras are assembled in the third quarter than in the other 3 quarters (where quarterly sales run about 20% of the annual total). There are four options for handling the high volume of retailer orders coming in during the third-quarter of each year:

1. Hire additional PATs in Q3 to assemble all or part of the added cameras needed to fill retailer orders and then lay off these temporary/seasonal PATs in Q4. Prior management installed 20 new workstations Q3 of Year 5 to enable the use of temporary PATs during peak assembly periods.
2. Have PATs work overtime to make a portion of the extra cameras needed—the maximum number of units that can be produced at overtime is 30% of quarterly PAT productivity (the number of units a PAT is currently assembling each quarter). Pay for units assembled at overtime is 1.5 times the hourly equivalent of the regular base pay scale.
3. Outsource some or all of the extra number of cameras that have to be assembled.
4. Use a combination of temporary PATs, overtime, and/or outsourcing.

Which of these options is most cost effective varies with the circumstances, but you'll find ample on-screen calculations to explore the costs of various options and guide your decisions.

Outsourcing the Assembly of Cameras. The contract assembly enterprises the company has worked with over recent years have the flexibility to assemble both entry-level and multi-featured models in whatever volume you and your co-managers desire. You and your co-managers control the number of cameras to be outsourced as follows:

- On the two assembly decisions screens, you determine the total number of entry-level and multi-featured cameras to assemble and ship to retailers each quarter.
- On the compensation, training, and labor force decisions screen, you and your co-managers determine how many PATs to hire/fire and thus have available to assemble cameras each quarter at the workstations that have been installed. The average quarterly productivity of PATs multiplied by the number of PATs available that quarter equals the number of cameras that can be assembled at regular time (i.e., without the use of over-time) in that quarter. You control the number of PATs employed each quarter.
- You and you co-managers specify the number of cameras that PATs are to assemble at overtime (up to a maximum of 30% above the quarterly PAT productivity number at regular time). There is an overtime decision entry for each quarter.
- All the remaining cameras that need to be assembled each quarter are automatically outsourced. The number to be outsourced in any one quarter, given the decision entries for hiring/laying off PATs and any overtime production, is automatically calculated by **GLO-BUS** and shown on the screen. Outsourcing costs are \$25 per camera plus the cost of the components.

Thus you and you co-managers are in full control of the assembly process, setting the total number of entry-level and multi-featured cameras to assemble and ship to dealers, the number of PATs to employ, the number of cameras to assemble at regular-time, the number to assemble at overtime, and the number to outsource. You'll find ample on-screen calculations to explore the pros and cons of all the various options for the 7 decision entries on this screen.

Special Order Bids

As the exercise progresses, your instructor may elect to activate an option that provides an opportunity to bid against rivals and obtain a special order of 100,000 entry-level cameras (50,000 if your industry is comprised of only four teams) to be assembled in the third-quarter and shipped to chain store retailers in time for the peak retail demand in the fourth quarter. Bids are submitted as part of each year's annual decision; the winning bids are based solely on low price (with brand image and P/Q rating as tie-breakers); however, chain retailers require a minimum P/Q rating of at least 1 star for any bid to be accepted. All interested camera-makers whose entry-level cameras have a P/Q rating of 1 star or greater can bid for these orders—bids are taken in each of the four geographic regions and there are two winning bids in each region (both for 100,000 entry-level cameras). A company can win a maximum of two bids annually (four bids annually if your industry is comprised of only four teams), but this still allows an opportunity to sell an additional 200,000 entry-level cameras annually should a company be a winning bidder in two of the four geographic markets. Normally, winning bidders outsource the assembly of the cameras needed to fill these special orders.

If and when the special order bid option is activated, a screen for entering bids will appear on the decision menu. The Help button for this screen contains detailed information about the how this option works and all the procedures.

Social Responsibility and Citizenship

This decision screen concerns what monies, if any, that you and your co-managers wish to spend for such things as charitable contributions, "green" initiatives to promote environmental sustainability, energy efficiency improvement programs, improved working conditions for plant personnel, and institution of a supplier code of

conduct and compliance monitoring of supplier factories. The decisions on this screen are straightforward, and you will find ample information on this screen and the accompanying Help section to guide your entries. The degree to which your company displays good corporate citizenship and conducts operations in a socially responsible manner affects your company's image; however, the image gains are minimal unless your company's actions are "comprehensive" (involve several, but not necessarily all, of the optional citizenship and social responsibility programs), entail more than token efforts (as indicated by how much money is being spent), and represent an ongoing effort of at least 4-5 years.

Finance Decisions

The Finance Decisions screen provides you with details relating to your company's quarterly cash inflows and outflows, along with projections of the company's year-end financial situation. Going into Year 6, your company has a B+ credit rating and a \$100 million line of credit at Global Community Bank. At the end of Year 5, the company had outstanding loans of \$36 million against its \$100 million credit line, giving it the ability to borrow an additional \$64 million should circumstances require.

Changes in the Company's Line of Credit. Officials at Global Community Bank review the company's financial status annually, determine how much credit they are willing to extend to the company, and adjust the \$100 million line of credit up or down. Bank officials have agreed to provide the company with additional credit to help the company finance growth in unit sales and revenue, provided the company maintains decent profitability. However, they have also indicated the \$100 million line of credit could be reduced if the company's financial condition deteriorates to the point where its loan repayment ability is jeopardized. The size of the credit line available each year is reported on the first line in the section of the screen where finance decisions are entered.

Interest Rates. The interest rates charged by Global Community Bank on loans against the line of credit are tied to the company's annual credit rating and will change annually in each of the upcoming years. For example, the interest rate for an A+ credit rating can range from a low of 4% to a high of 7%; the interest rate for a C- credit rating can range from a low of 10% to a high of 13%. Currently, an A+ rating carries an interest rate of 5% and a C- rating entails an interest rate of 11%. The Global Community Bank's present interest rate for a B+ rating is 6.5%.

Just as interest rates in real-world financial markets change intermittently and unpredictably, there is no way to predict in advance what next year's interest rates will be. New interest rates are announced at the beginning of each year, and your company's interest rate is shown in a prominent box on the Finance Screen. Should your company fall into dire financial straits in upcoming years and have to borrow more than the credit line maximum, the bank is prepared to make an emergency loan at rates as low as 11% or as high as 14%, depending on the prevailing A+ credit rating (which is always in the 4% to 7% range).

Factors Determining the Company's Credit Rating. Officials at the Global Community Bank, in collaboration with analysts at independent credit rating agencies, review the company's financial statements annually and assign the company a credit rating ranging from A+ to C-. Companies are automatically put on special credit watch status when their rating falls to C+ or lower. A company's credit rating is a function of four factors: (1) the debt-equity ratio (annualized over all four quarters); (2) the times-interest-earned ratio (defined as annual operating profit divided by annual interest payments); (3) the percentage of the credit line used (a lower percentage is better than a high percentage); and (4) how many years it will take to pay off the company's outstanding loans based on the most recent year's free cash flow (defined as net income plus depreciation minus total dividend payments)—the number of years to pay off the debt equals the amount of loans outstanding divided by free cash flow. A projections of your next year's credit rating, based on projections of how your company will likely stack up on these four credit rating determinants, is shown at the bottom of every decision screen. (There is considerably more information about the credit rating on the Help screens and in the reports that accompany each year's decision results.)

The Company's Need for Seasonal Loans. The seasonal nature of the company's business makes it common for the company to have to borrow money in the third quarter of each year to help cover the sharp Quarter 3 seasonal run up in production costs and operating expenses—*retailers do not pay for cameras shipped in one quarter until the following quarter*. Hence, there is a one-quarter lag between shipping

cameras and the actual receipt of payments from retailers. However, revenues from camera sales are booked when the cameras are shipped, not when payment is received, as a consequence, revenues in a quarter/year will not match cash receipts from retailers because of the one-quarter lag in payment.

The Four Financial Decisions. The finance-related decision entries revolve around the following issues:

- *How much of the company's draw against its credit line to pay down each quarter.* Using cash on hand and positive cash flows from operations to pay down debt has the advantages of reducing interest costs and improving the company's credit rating.
- *What size quarterly dividend to pay shareholders.* The company paid a dividend of \$0.25 per quarter in Year 5; you and your co-managers have the authority to declare a higher dividend or, if the need arises, to reduce the quarterly dividend. Higher dividends are welcomed by shareholders and have a positive effect on the company's stock price (unless dividend payments exceed earnings per share for several quarters running and can't be sustained at present levels).
- *Whether to raise additional equity capital by issuing new shares of common stock.* New issues of common stock, of course, have the effect of diluting earnings per share and should be done cautiously and infrequently. Nonetheless, from time to time, you and your co-managers may determine that the company needs to raise additional equity capital to (a) help pay down a portion of the outstanding loans (because of burdensome interest costs or because the company has used up most of its credit line) or (b) to help pay for facilities expansion and/or additional workstations. The company's board of directors has established a 5-million share maximum limit on the number of shares that can be issued in any one year (at the end of Year 5 the company had 10 million shares outstanding). Each time you make an entry in the decision box specifying how many shares are to be issued, **GLO-BUS** provides on-screen calculations showing the total amount of new equity capital you can raise from issuing a specified number of shares (see the cash inflows section) and the price at which investors will agree to buy the newly-issued shares (the price declines as more shares are issued because of the dilution effects of additional shares on earnings per share). You can try several "what if" entries, checking out the effects on earnings per share, return on investment, and the amount of money raised.
- *Whether to repurchase some of the outstanding shares.* Using cash on hand to repurchase and retire outstanding shares has the advantage of boosting earnings per share, the company's returns on investment, and stock price. The maximum number of shares that can be repurchased in any one year is shown on a line to the right of the Shares Repurchased decision entry field. Each time you make an entry in the decision box specifying how many shares are to be repurchased, **GLO-BUS** provides on-screen calculations showing the cost of the repurchased shares (see the cash outflows listings) and the price at which investors will agree to sell the shares you want to buy back (the price rises as more shares are repurchased because of the upward impact on earnings per share and the bigger fraction of ownership that fewer shares represent). You can try several "what if" entries, checking out the effects on earnings per share, return on investment, and the amount of money your company will have to pay for repurchased shares.

There is on-screen information showing how your company stacks up each quarter on the four key measures that determine the credit rating; you will find this valuable in making decisions that steer your company toward a strong credit rating and away from credit rating downgrades (especially those that put you below a B rating). And you will be able to try various "what-if" entries to see if paying down the loans outstanding and issuing or retiring shares of stock will help produce a better credit rating.

Special Note on Decision-Making Procedures



It is feasible (often normal) for co-managers to log-on simultaneously and each be engaged in entering decisions (either at different locations miles apart or on adjacent computers in a computer lab). When you log-on and get to your company's corporate lobby, **GLO-BUS** indicates the last date at which a co-manager saved decisions to the server and whether other co-managers are currently logged on. Needless to say, simultaneous log-ons at different locations are an occasion for staying in communication—while you can use cell phones to converse directly with co-managers, we urge making full use of the on-screen "Alert and

Chat Center” window that is always on your monitor after you click on the Decision and Reports menu; this window allows you to (1) chat directly with other logged-on co-managers while continuing to view any decision/report screen and (2) receive alerts when they save decision entries or log-off. If another logged-on co-manager clicks on the Save icon and uploads new decisions to the **GLO-BUS** server, you will immediately receive a message on your Alert and Chat Center window that gives you the option to temporarily ignore the newly-saved entries until later or to immediately import the co-manager’s newly-saved set of decisions onto your decision screens and override whatever entries you have made. Later, if you decide to save decision entries you have made to the server, your co-manager will receive a similar alert. Bear in mind that **the last set of decision entries saved to the GLO-BUS server when the deadline for the decision round arrives will be used to determine the actual industry and company results.** **Coordination and consensus on the decision entries is strongly urged but is left as a matter for you to work out with your co-managers.**

Making Quarterly Decision Updates (optional)



If the decision schedule provided by your instructor (accessible on the corporate lobby screen) allows for quarterly decision updates starting in Year 8 or later, then you and your co-managers can review the results of your decisions on a quarter-by-quarter basis and fine-tune your company’s strategy for the remaining quarters of the year. Adjustments can be made in up to nine decisions: (1) wholesale selling prices of entry-level and multi-featured cameras, (2) quarterly advertising expenditures, (3) the number of promotions, (4) the length of promotions, (5) the size of any promotional discounts, (6) the number of cameras assembled, (7) the number of PATs employed, (8) the pay-down of outstanding loans, and (9) the quarterly dividend. You will have a short time (usually no more than 24 hours, and perhaps less) to go online, check out the results for quarters 1 or 2 or 3, and then decide what changes, if any to institute. Procedures for doing quarterly updates are provided on the corporate lobby screen. The decision schedule provided by your instructor shows the deadlines for making quarterly adjustments.

Reporting the Results



GLO-BUS processes the final decision entries of all the companies in the industry and notifies you via e-mail that the results are ready (usually no more than 20 minutes after the deadline for each decision round). The results are presented in the form of three sets of reports:

- The **GLO-BUS Statistical Review (GSR)** which contains (a) a 3-page company performance scoreboard, (b) a 1-page statistical overview of the digital camera market (total units shipped to retailers, units sold by retailers, units and retailer inventories, and forecasts of retailer sales for the next two years—with breakouts by type of camera and geographic area), (c) 1 page of data for benchmarking your costs against those of rival companies, and (d) 1 page of comparative financial statistics for all companies.
- A **Competitive Intelligence Report** consisting of (a) a 4-page “quarterly snapshot” showing the competitive efforts (prices, advertising, number of models, promotional efforts, etc.) of all companies in each of the four geographic regions and (b) a “company analysis” page showing the competitive efforts of any rival company of interest for the past 12 quarters.
- A set of **Company Operations Reports**—a production cost report, an income statement, a balance sheet, a cash flow statement, and operations reports for each of the four geographic regions.

You’ll find the information in these three sets of reports *essential* in guiding your decisions for the following period (the Company Operations Reports and Competitive Intelligence Reports are available quarterly, if quarterly adjustments are permitted). The information in the reports is fairly self-explanatory, but you can click on the Help buttons for each report to see discussions of (a) how to use each report and (b) how the numbers are calculated. Your first step when you receive e-mail notification that the results are ready should be to print copies of all three reports (a set for each co-manager is recommended), carefully evaluating what transpired and how well your company fared. Then you are ready to begin making decisions for the upcoming year.

What Your Board of Directors Expects



The Board of Directors has charged you and your co-managers with *developing a strategic direction* and *crafting a strategy* that delivers consistently good results. Board members and shareholders/investors have set five clear-cut performance objectives for the company's new management team:

- *Grow earnings per share (EPS) at least 8% annually through Year 10 and at least 4% annually thereafter*—the EPS target for Year 6 is \$2.16, up from \$2.00 in Year 5. The Board believes these EPS growth targets are well within reason given that the global camera market is expected to grow 8-10% annually through Year 10 and 4-6% annually in Years 11-15. Board members and shareholders believe a winning strategy should be able to deliver EPS growth at the low end of the market growth percentages.
- *Maintain a return on equity investment (ROE) of 15% or more annually.* The company had a 17% ROE in Year 5. Return on equity is defined as net income divided by total shareholders' equity investment (total shareholders' equity investment is reported on the company's balance sheet).
- *Achieve stock price gains averaging 8% annually through Year 10 and 4% annually thereafter*—the year-end stock price target for Year 6 is \$32.40, up 8% from \$30 in Year 5. Stock price gains of this size are definitely within reach if the company meets or beats the annual EPS targets and periodically increases dividend payments to shareholders. The company's stock price was \$30 per share at the end of Year 5. Your company's stock price is a function of earnings per share, ROE, credit rating, dividends per share, and the percentage of the 5 performance targets that your company has achieved over the course of the **GLO-BUS** exercise.
- *Maintain a B+ or higher credit rating.* The company's credit rating was B+ at the end of Year 5.
- *Achieve an image rating of 70 or higher.* **GLO-BUS** calculates an image rating for each company in the industry that is based on its P/Q rating for entry-level cameras, its P/Q rating for multi-featured cameras, its market shares for entry-level cameras in the four geographic regions, its market shares for multi-featured cameras in the four geographic regions, and a company's actions to display corporate citizenship and conduct operations in a socially responsible manner over the past 4-5 years—a total of 11 factors. Your company had an image rating of 70 at the end of Year 5.

The Board of Directors has given you and your co-managers broad strategy-making and operating authority to pursue the achievement of these 5 performance objectives, subject to two primary constraints: (1) your company may not merge with another company—the Board wishes the company to remain independent, and (2) company co-managers are expected to comply fully with all legal and regulatory requirements and to conduct the company's business in an ethical manner.

Scoring Your Company's Performance



Your instructor has placed weights on the relative importance of the performance targets for EPS, return on equity or ROE, credit rating, image rating, and stock price appreciation that translate into some number of points out of 100 for each of the 5 performance measures, with the sum of the points adding to 100. Your company's performance on each measure will be tracked annually and evaluated from two different angles:

1. *The investor expectations standard.* This scoring standard involves calculating an annual "Investor Expectation Score" based on your company's success in meeting or beating each year's *expected* performance targets for EPS, return on equity or ROE, credit rating, image rating, and stock price appreciation. There is also a Game-to-Date or "all-years" Investor Expectation Score that shows your company's success in achieving or exceeding the five expected performance targets over all years of the exercise completed so far. Meeting each expected performance target is worth some number of points based on the scoring weight your instructor selected. For example, if the scoring weight for EPS is 20% or 20 points, meeting the EPS target earns a score of 20 on the EPS performance measure. Beating a target results in a bonus award of 0.5% for each 1% the annual target is exceeded (up to a maximum bonus of 20%). Thus, if achieving the EPS target is worth 20 points, a company can earn a score of 24 points by beating the annual EPS target by 40% or more. Failure to achieve a target results in a score equal to a percentage of that target's point total (based on its weight out of 100 points). If your company earns \$1.33 per share of common stock at a time when the EPS target is \$2.67 and achieving the \$2.67 EPS target is worth 20 points, then your company's score on the EPS target would

be 10 points (50% of the 20 points awarded for meeting the EPS target). Exactly meeting each of the 5 performance targets results in an Investor Expectation Score of 100. With potential point bonuses of up to 20% for exceeding each performance target, it is possible to earn an Investor Expectation Score of 120.

2. *The best-in-industry standard.* This scoring standard is based on how your company's performance compares to the industry's best performer on earnings per share, return on equity (ROE), stock price appreciation, and image rating and to the ultimate credit rating of A+. After each decision round, **GLO-BUS** arrays each company's performance on EPS, ROE, Stock Price, and Image Rating from highest to lowest. The best-in-industry performer on each of these 4 measures earns a perfect score (the full number of points for that measure as determined by the weights chosen by your instructor)—provided the industry leader's performance on that measure equals or exceeds the performance target established by company Boards of Directors). Each remaining company earns a fraction of the points earned by the best-in-industry performer that is equal to its performance (on EPS, ROE, stock price, and image rating) divided by the performance of the industry-leading company (on EPS, ROE, stock price, and image rating). For instance, if ROE is given a weight of 20 points, an industry-leading ROE performance of 25% gets a score of 20 points and a company with an ROE of 20% (which is 80% as good as the leader's 25%) gets a score of 16 points (80% of 20 points). Likewise, if EPS is given a weight of 20 points, an industry-leading EPS performance of \$5.00 gets a score of 20 points and a company with an EPS of \$2.00 (which is 40% as good as the leader's \$5.00) gets a score of 8 points (40% of 20 points). The procedure for assigning best-in-industry scores for credit rating is a bit different. Each credit rating from A+ to C- carries a certain number of points that scales down from the maximum number of points for an A+ credit rating to 1 point for a C- rating. Each company's combined point total on the five performance measures is its score on the best-in-industry standard. Your company will receive an annual best-in-industry score and a best-in-industry score for all years completed. In order to receive a score of 100, a company must (1) be the best-in-industry performer on EPS, ROE, stock price, and image rating, (2) achieve the targets for EPS, ROE, stock price appreciation, and image rating set by the company's Board of Directors, and (3) have an A+ credit rating.

After each decision round, you will be able to review every company's performance scores on both the investor expectations standard and the best-in-industry standard for each year completed, along with an overall "game-to-date" (G-T-D) score for each standard. Each company will also receive annual and game-to-date Overall Scores that are determined by combining the Investor Expectation Score and the Best-in-Industry Score into a single score using whatever weighting your instructor has chosen, often 50-50. All scores are reported on the first 3 pages of each issue of the *GLO-BUS Statistical Review*, and you can read the full scoring details by clicking on the Help button for each of these pages.

Some Advice and Words of Caution



In making decisions each period, you and your co-managers are strongly encouraged to run the company in a serious, professional manner. The overriding purpose of **GLO-BUS** is to give you practice in making business decisions, learning to craft winning strategies in a competitive market, and being held fully accountable for the results of your actions—just as managers in the real-world are held accountable for the performance of the companies they run. Be wary of trying something that is imprudent, highly risky, or un-businesslike (things that might get a manager fired in a real company). In our experience, overzealous students who resort to trying to "game the system" almost always shoot themselves in the foot. You'll get more out of participating in **GLO-BUS** when you take on the role of a business professional who is trying to achieve the best possible company performance using managerially prudent and responsible business approaches. Little of value will come from approaching **GLO-BUS** like a daring adventurer out to win some variant of a videogame by testing the limits of the simulation and using whatever un-businesslike and unprofessional means you can get by with.

Also, be wary of following the advice of friends or acquaintances (who have previously participated in the **GLO-BUS** exercise) regarding what to do and not do to "win" or get a good grade. Such advice, while well-meaning, comes from their experience of competing against a different set of companies than you will be competing against. It is truly risky (if not unwise) for you and your co-managers to base your strategy and decisions on the folklore of what may have worked well for companies in another industry at another

time. Why? Because all of the sales-determining algorithms are 100%-based on the competitive approaches and strategies of the companies *in a particular industry*. No two groups of competing companies are ever likely to employ near-identical mixes of strategies and decisions across all of the decision rounds (there are simply far too many variables and differences among competitive approaches for this to happen). Hence, the competitive approaches and outcomes in some other industry or group of competing companies may be interesting (and something you might be curious about) but it is erroneous to assume such strategic maneuvers and competitive approaches will prove successful in your industry. You are competing against the strategies and competitive approaches employed by rival companies in your industry, not against the mix of strategies and decision combinations of companies in another class or on another campus. Hence it is ill-advised for you and your co-managers to do anything other than aim your strategy and decisions squarely at outcompeting and outperforming rival companies in your industry.

What You Can Expect to Learn



GLO-BUS is a hands-on, learn-by-doing exercise designed to:

- *Connect directly to the material in your textbook and give you practice in applying basic strategy concepts, using the standard tools of strategic analysis, and crafting strategies.* **GLO-BUS** provides opportunity after opportunity to put much of what you've been reading into play and gain some proficiency in utilizing the concepts and tools of strategic analysis. You and your co-managers will have to assess the latest industry developments, check out competitive conditions in the different market segments, chart a long-term direction for your company, set and achieve strategic and financial objectives, craft strategies that produce good results and perhaps lead to competitive advantage, and adjust strategic plans in response to changing conditions. You'll be provided with strategic group maps, lists of competitive strengths and weaknesses for your company and for rivals, assorted benchmarking data, and competitive intelligence on what rivals are doing—all of which can be used to size up your company's situation, diagnose what rivals are up to, and anticipate what moves they are likely to make next. You'll have to match strategic wits with the managers of rival companies. You'll be thrust into "thinking strategically" about your company's competitive market position and figuring out the kinds of actions it will take to improve it. You'll be responsible for doing the strategic thinking needed to successfully lead your company in a globally competitive marketplace. Learning to do all these things and gaining an appreciation of why they matter are the heart and soul of courses in business strategy.
- *Draw together the information and lessons of prior courses, consolidate your knowledge about the different aspects of running a company, and provide a capstone for your business school education.* **GLO-BUS** incorporates a wealth of material covered in earlier business courses. Wrestling with accounting and financial data, production operations, workforce compensation and training, sales and marketing issues, and so on each decision period will not only give you a stronger understanding of how all the different functional pieces of a business fit together but also teach you the importance of looking at decisions from a **total-company perspective** and unifying decisions in a variety of functional areas to create a cohesive strategy. You will see why and how decisions made in one area spill over to affect outcomes in other areas of the company. **GLO-BUS** is very much a **capstone learning experience** that ties together material from other core courses and gives you a better feel for what running a business is all about.
- *Deepen your understanding of revenue-cost-profit relationships and build your confidence in utilizing the information contained in company financial statements and operating reports.* The numbers-oriented nature of **GLO-BUS**, where you repeatedly make decisions and immediately see on-screen calculations of their impacts on revenues, cost, profits, cash flow, and other important factors, and where you are confronted with all kinds of statistical information about your company and your industry, has the beneficial result of helping you gain greater familiarity with and command of "all the numbers" that surround the tasks of managing a company's operations. The power of having the computer instantaneously calculate the consequences of each decision will make you appreciate the importance of basing decisions on solid numbers instead of the quicksand of "I think", "I believe", and "Maybe it will work out okay." Moreover, because you'll have frequent occasion to review all kinds of

operating statistics, identify costs that are out-of-line and take corrective action, compare the profitability of different market segments, assess your company's financial condition, and decide on what remedial and proactive approaches to take to improve your company's performance, you'll see why you cannot hope to understand a company's business and make prudent decisions without full command of the numbers—you won't have to play **GLO-BUS** very long to appreciate why shooting from the hip is a sure ticket for disaster.

- *Provide valuable decision-making practice and help you develop better business judgment.* In the course of making the strategic and operating decisions that arise in **GLO-BUS**, you and your co-managers will get all kinds of practice in deciding what to do. You'll experience the thrill of "good" decisions (good in the sense they contributed to above-average or maybe even superior company performance) and the agonizing consequences of "bad" decisions (bad in the sense that the company's performance turned out more poorly than expected). The exercise of repeatedly making decisions on the factors that make up **GLO-BUS** will sharpen your sense of business judgment. In the midst of all this decision-making practice, you will get to test your ideas about how to run a company, and there will be prompt feedback on the caliber of your decisions.

The bottom line is that being an engaged participant in the **GLO-BUS** exercise will make you better prepared for a career in business and management. Further, we predict that **GLO-BUS** will make your competitive juices flow and that you will have a lot of fun.