Action-Capture Camera Marketing Decisions

Explanations – Cause-Effect Relationships – Suggestions and Tips

All seven marketing decisions for action cameras, together with your company's P/Q rating for cameras and the number of camera models offered (both of which are determined by entries on the Product Design page) and your company's brand reputation (determined at the end of the prior year) combine to determine the strength of your company's competitive efforts to compete successfully against rival companies and capture an attractively profitable sales volume and market share in the AC Camera Market Segment in each region.

Each time you make a decision entry on this page, the on-screen calculations in the Market Segment Statistics section and in the Price-Cost-Profit Breakdown section will instantly show the ***projected*** effects, by geographic region, on unit sales, market share, revenues, unit operating costs, operating profit, and operating profit margin, as well as updated ***projections*** of overall company performance (in the box under the Decisions/Reports menu). ***All of these on-screen calculations are there to help you evaluate the relative merits of one decision entry versus another***. As always, no decision entry is "final" until the decision deadline passes, so you can try out many different entries in each of the 7 marketing-related decision boxes for each geographic region and also try out as many different decision combinations as you wish in searching for a "winning" strategy and combinations of marketing-related decision entries that offer the "best" or "most attractive" *projected outcomes* across the four geographic regions.

Use the links below to quickly access the topic on which you want explanations, guidance, and suggestions.

Competitive Factors Affecting AC Camera Sales/Market Share

The top section of this page shows 9 of the ***competition-related factors that combine to determine the buyer appeal and overall strength of your company's competitive efforts to compete successfully against the AC camera offerings of rival companies*** and thereby win an attractively profitable sales volume and market share in each region.

- Your company's ***P/Q rating*** and ***number of models*** are determined by decision entries on the Product Design decision page. Both can be increased or decreased, should you wish to make changes, by returning to the Product Design page and making the desired adjustments.

- Your company's ***brand* reputation,** the 10th relevant competitive factor, was determined by outcomes at the end of the prior year and, thus, is a given. You can see how your company's brand reputation compares against the brand reputations of rivals (and thus whether your company has a brand reputation-based competitive advantage or disadvantage on this competitive factor in the upcoming year) by consulting the image rating data on p. 3 of the most recent *Camera & Drone Journal*.

- The seven AC camera marketing decision entries for each region on this page combine to determine the overall competitive strength of your company's marketing efforts vis-à-vis those of rival companies and thus will have a significant positive/negative impact on your company's camera sales and market share in each region.

Tip #1: Experiment with different combinations of the AC camera marketing entries and try to discover a combination with the most appealing performance projections. If the most appealing combination in one or more regions entails a projected shortfall of cameras assembled (see the Compensation and Facilities screen), then you can increase assembly capabilities or curtail your competitive efforts.

Tip #2: The first time you visit the AC Camera Marketing decision page, the entries you see in the Competitive Assumptions section at the bottom of the page represent the ***prior-year*** regional average competitive efforts of all companies. These prior-year competitive efforts in the Competitive Assumptions boxes for each region, along with your company's entries on this screen, are used to generate the projections of units sold, market share, operating profits, and operating profit for each region, plus the overall company performance projections in the box under the Decisions/Reports menu. But ***using the prior-year regional averages to calculate these projections is problematic because rival companies are virtually certain to make changes in their competitive efforts as they prepare their decisions for the upcoming year***.

You should beware of putting much faith in projections partly based on backward-looking ***prior-year*** industry averages of the competitive efforts of all the various companies in the industry when, in truth, it is highly probable that, ***on average***, rival companies will make some kind of upward/downward changes in their competitive efforts in each region. ***In other words, the nature and strength of the competitive efforts your company will face from rival camera-makers in the current or upcoming year is likely going to differ from the previous year***.

Recommendation: Consider updating the Competitive Assumptions entries at the bottom of this screen before you start making your entries for the seven AC camera marketing decisions for the upcoming year because any updates will most definitely impact all of the projected outcomes on this screen. Thoughtful, analysis-based updates will make the resulting on-screen projections more "forward-looking" or "credible" or "reliable" than "backward-looking" projections based on "out-of-date" prior-year industry averages. See the Competitive Assumptions section of this Help document for guidance in making the updates.

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AC Camera Marketing Decisions

Average Wholesale Prices to Retailers. You have the flexibility to set different average wholesale prices for your camera models for each region. There are several reasons to charge different prices in different regions:

1. Because competitive conditions and maneuvering of rivals (with regard to price or other competitive factors) are different from region to region.
2. Because the buyers of action cameras in Latin America and the Asia-Pacific regions are *more* sensitive to cross-brand price differences than are camera buyers in North America and Europe-Africa.
3. Because you and your co-managers wish to stake out different market positions in each region and pursue different strategies for competing in each region.

4. Because import duties are not the same for all regions.
5. Because exchange rate adjustments vary from region to region.

Alternatively, you have complete discretion to pursue a mostly global pricing strategy and charge identical (or much the same) wholesale prices to retailers in each region—your company always markets the same camera models having the same P/Q ratings and the same production costs in all four geographic regions of the world (although other marketing-related costs, as well as the competitive efforts of rivals, tend to vary by region).

How the average wholesale price of your company's action-capture cameras in a given region compares to the industry average price in that region has a major bearing on your company's unit sales and market share in the region. *You can see the projected effect on unit sales and market share in a region of a change in the average wholesale price to retailers by watching how much projected unit sales and market share change (see the Market Segment Statistics section just below the marketing decision entries) 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.

> ***Tip:*** *Before attempting to enter a wholesale price to retailers always consult the most recent Comparative Competitive Efforts section of the Competitive Intelligence Report to see whether your company's prior-year wholesale price in each region resulted in a price-based competitive advantage or disadvantage and the percentage size of this advantage/disadvantage.* A large percentage competitive disadvantage in one or more regions should automatically trigger *strong consideration of corrective action*—to at least narrow the disadvantage, if not eliminate it altogether. *retailers compared against those of rivals region by region. This, along with your entries of the anticipated industry averages of wholesale prices to retailers in each region (see the "price to retailers" in the Competitive Assumptions section at the bottom of the page), should provide helpful guidance in arriving at what average wholesale price to retailers to enter for each region.*

Each time you make alternative decision entries for average wholesale price, use the resulting changes in the on-screen calculations to help zero in on what you and your co-managers consider, at least temporarily, to be an "optimal" or at least "acceptable" decision entry for price. After you enter the other marketing decisions, you can always come back to the decision entry for price in a particular region and make further adjustments. Expect to recycle through the marketing decision entries for each region several times.

While lower average wholesale prices to retailers tend to boost unit sales/market shares (assuming you and your co-managers do not undercut the effects of a lower price by reducing your company's competitiveness in other areas), lower wholesale prices can narrow operating 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). So as you try out different entries for average wholesale price, it is important to look beyond just the effects on projected unit sales/market share for the region and also check out the projected effects on (1) a region's operating profit and operating profit margin and (2) overall company performance.

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Retail Outlets. Observe that the last three lines of the Market Segment Statistics section show the number of multi-store chains, online retailers, and local retail shops in each region that *decided at the end of the prior year* to stock and display your brand of AC cameras in the upcoming year. In the last two months of each year, camera retailers decide whether to stick with the camera brands they are currently stocking or whether to make some adjustments based on five considerations:

1. Which camera brands in their region are growing in popularity and declining in popularity among buyers (as measured by changes in *each company's market share in the region*).
2. Company *P/Q ratings* relative to the industry average.

3. Each camera company's *expenditures for retailer support* in the region relative to the regional average
4. Each camera company's *number of weekly sales promotions* in the region
5. The size of each company's *promotional discount* during these weekly sales promotions.

The number of retailers willing to stock and merchandise each camera brand in each region in the upcoming year are always updated when the prior-year decision entries are processed and are reported in the Comparative Competitive Efforts section of the Competitive Intelligence Report.

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Retailer Support. Decisions on how much to spend on retailer support have to be made for each geographic area. It is normal to spend different amounts on retailer support in different geographic areas because your company has a different number of retailers in each region (as shown on the last three lines of the Market Segment Statistics section) and also because unit sales vary considerably from region to region. It is normal to spend different amounts on retailer support in different geographic areas because your company has a different number of retailers in each region (as shown on the last three lines of the Market Segment Statistics section) and also because unit sales vary considerably from region to region.

Retailer support expenditures in each region involve providing retailers with in-store signs, up-to-date product-information brochures, and point-of-purchase (POP) displays that showcase engaging video samples and that attractively present the company's camera models and accessories. A portion of these expenditures are also used to support the trips of company marketing personnel to visit the stores of high-volume retailers and work with store managers/clerks in expanding/improving the footprint of the company's POP displays.

The size of your company's retailer support budget in each geographic region is one of the factors determining the competitiveness of your brand of cameras vis-à-vis the offerings of rivals and also has a major effect on how many retailers in the region will be attracted to merchandise your cameras (this number is always updated at the end of each decision round). ***Companies providing greater retailer support per unit sold gain a competitive edge in attracting retailers to stock their brand compared to companies spending a lesser amount on retailer support per unit sold.*** The bigger a company's network of multi-store retailers, online retailers, and local retail shops in a region, the stronger is its brand exposure to camera shoppers and the better chance it has to win sales and market share in the region.

Consult the Comparative Competitive Efforts report to determine whether your company had a competitive advantage or disadvantage on retailer support in each region in the prior year. The sizes of competitive advantages or disadvantages, along with your entries of the anticipated industry averages of retailer support expenditures in each region in this decision round, should provide adequate guidance for helping arrive at how many dollars to spend for retailer support in each region.

Each time you make alternative decision entries for the retailer support budget, you can use the resulting changes in the on-screen calculations to help zero in on what you and your co-managers consider to be an "optimal" or at least "acceptable" decision entry.

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Advertising. It is normal to spend different amounts on advertising in different geographic areas since unit sales and market share differ widely across each region. Decisions of how much to spend on advertising in each region always need to be made with an eye toward how much rivals are likely to spend on advertising in the upcoming year. It is very risky to arbitrarily decide to spend only so many dollars on advertising when rival companies are spending double or triple your amounts. But this does not mean that you have to be drawn into a contest with rivals on who-can-outspend-whom on advertising—rather it means you have to be alert to the effect of advertising expenditures on your company's overall competitiveness against rivals.

If your company's advertising budget 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 positively impacts sales and market share. If your company's advertising expenditures are below the industry-average in a geographic region, then your company's advertising-based competitive disadvantage will result in selling fewer cameras than would be the case at higher advertising levels. Consult the most recent Comparative Competitive Efforts report to see how your company's prior-year advertising expenditures compared against those of rivals, region by region; these comparisons, along with your anticipated industry averages of advertising expenditures in each region in this decision round, should provide adequate guidance for helping arrive at how much to spend on advertising in each region.

> ***Note:*** Bear in mind that there is no pre-determined value (say, 100,000 cameras) that has been programmed into *GLO-BUS* specifying that if a company increases its advertising by $1 million annually then its camera sales will rise by *x* units. Rather, the size of the impact of a $1 million increase in ad spending always depends on the actions of competitors. The reason "it all depends" is perfectly logical and realistic 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 competition-related decisions. Your company's unit sales would rise by, say, *x* units (based on algorithms contained in the simulation). But, if in the same year several rivals decide to raise their advertising by $500,000 in the Asian-Pacific market, then your company's sales will rise by a lesser amount, say, only *y* units. And, should ***all*** rivals elect to boost their adverting in the Asian-Pacific by $2 million (all other things remaining equal), your company's $1 million advertising increase would be accompanied by a *decline* in unit sales (albeit a smaller decline than if you had failed to increase advertising at all). So, just how many extra units your company will sell as a result of increasing advertising by $1 million "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 wholesale price, number of models, 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—raising/lowering prices, adding/deleting models, warranties, producing cameras with a higher/lower P/Q rating, and so forth.

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Website Displays/Info. The timeliness, creativity, and effectiveness of the product displays, informational content, and customer reviews at each company's website, along with the website's visual appeal and functionality, is an important element in prompting buyers to visit a nearby retailer of the company's brand, personally inspect the company's various models, and perhaps make a purchase. Visits to a company's website also enable customers to obtain needed after-the-sale technical support, download apps and software updates for previously-purchased camera models, browse product manuals, discover how to file a warranty claim, and use the chat function to pose questions to online personnel.

Spending different amounts in different regions is normal because (1) unit sales differ widely by region, (2) your company's management team may wish to put more emphasis on gaining sales/market share in some regions versus others, and (3) rivals in some regions may be spending considerably more/less than your company on this competitive factor. As should be the case for all the marketing decision entries, consult the most recent Comparative Competitive Efforts report to see whether your company's prior-year expenditures for website displays/info resulted in a competitive advantage or disadvantage. The percentage sizes of these regional competitive advantages or disadvantages, along with your entries of the anticipated industry averages of website product displays/info expenditures in each region in this decision round in the Competitive Assumptions section, should provide adequate guidance for helping arrive at how much to spend in each region this upcoming decision round.

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Sales Promotions and Promotional Discounts. Rival companies can run from 0 to 20 *week-long* sales promotion campaigns annually to tout their action-capture cameras—all such campaigns involve offering retailers a discount of some size off the regular price. You will quickly see (by trying out different decision entries for the number of weekly sales promotion campaigns and the percentage size of the price discounts during these campaigns) that these two decisions can have a positive and profitable impact on the projections of unit sales, market share, revenues, and operating profits. As a consequence, they are very important marketing decisions. Promotional campaigns involving sales prices of 15% to 20% off the regular price have substantially greater sales-enhancing impact than promotions offering only 5 or 10% discounts, even if a company holds more weekly sales promotions with such small discounts.

Retailers like for the company to have periodic sales promotion campaigns because they call attention to the brand, spur consumer interest and store traffic, and help increase unit sales. Both the number of promotional campaigns annually and the size of the discounts off regular price are factors that impact the decisions of retailers (multi-store chains, online retailers, and small local retailers) to stock and merchandise your brand of cameras.

Again, make it a point to consult the most recent Comparative Competitive Efforts report to see whether your company's prior-year number of promotional campaigns and the percentage discount off regular price compared against the regional averages. Were the percentage sizes of the resulting competitive advantages or disadvantages "large" or "small." A large percentage competitive disadvantage in one or more regions should automatically trigger *strong consideration of corrective action*—to at least narrow the disadvantage, if not eliminate it altogether. The percentage sizes of the competitive advantages or disadvantages, together with your competitive assumption entries (in the bottom section of the page) of the *anticipated* upcoming-year industry averages of (1) the number of promotional discounts and (2) the percentage discount off regular price in each region, should help your management team decide on the two decision entries for sales promotions.

The effects of the promotional discounts are automatically considered in calculating the projections of the company's *net* revenues (after allowing for the revenue erosion associated with promotional discounts) and operating profits in each region—see the on-screen calculations in the Price-Cost-Profit Breakdown section. Net revenues per unit refer to the amount the company receives per unit sold after the effects of price discounts during sales promotion campaigns are considered.

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Warranty Period. Lengthening the warranty period for cameras, while making your camera models more appealing to buyers, also has the effect of boosting warranty repair costs because of (1) the increased number of sales associated with offering buyers a longer warranty and (2) having warranty claims come in over a longer period of time. Different warranty periods can be offered in different geographic regions.

- The expected warranty claim percentage and the projected warranty repair costs associated with whatever length of the warranty period is entered are shown just under the warranty period decision field. *The cost of handling a warranty claim for your action cameras is $50 per claim*.
- The percentage of expected warranty claims *declines* as your company's P/Q rating for cameras *rises.* (Your company's management team can also opt to reduce the warranty claim percentage by increasing the size of the "assembly quality incentive" paid to camera PATs—this means of cutting warranty claim costs is discussed in the Help section for the Compensation, Training, and Product Assembly Decision page.)
- As you can see from making different entries for the warranty period and observing the on-screen projections for warranty claim costs, longer warranty periods can increase future warranty costs significantly. Keep in mind that projected warranty claims repair costs are indeed projections, since the actual number of cameras sold can turn out to be higher/lower than projected in the likely event that the competitive efforts of rivals are weaker/stronger than anticipated.

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Halting Camera Sales in a Region. If, for whatever reason, you want to withdraw entirely from selling cameras in a particular geographic region for one or perhaps more decision rounds, just enter the region's wholesale price as $0. Then also eliminate the dollar expenditures for retailer support, advertising budget, and website product displays/info (in order to avoid paying costs for these items when you are not striving to secure buyers and thus have no sales in the region). You can reenter a region and resume sales whenever you wish.

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Market Segment Statistics

AC Camera Demand (Unit Sales) and Market Share. The first two lines of the Market Segment Statistics section for AC Camera Demand and Market Share display how prior-year actual unit demand and market share compare against the ***projected*** unit demand and market share for the upcoming year, region by region. As has been emphasized above, the upcoming year projections are based on (1) the entries currently showing in the marketing decision boxes (and entries on all the other decision pages) and (2) the *prior-year* competitive efforts of rival companies, as measured by the prior-year industry-averages (all-company averages) for selling prices, advertising, promotions, P/Q ratings, and so on. The retail sales and market share projections can turn out to be different from the actual outcomes the more that your judgments about whether the upcoming year all-company averages for the various competitive factors for action cameras in each geographic region will prove to be about the same, a little stronger/weaker, slightly stronger/weaker, somewhat stronger/weaker, or much stronger/weaker prove to be off-the-mark.

Numbers of Retail Outlets. The last three lines of this section compare the number of multi-store chains, online retailers, and local retail shops in each region that stocked and displayed your brand of action cameras in the prior-year and the number that have decided to stock and display your brand of action cameras in the upcoming year—***there's nothing you can do in the current year to attract additional retailers*** (the number of retailers who decide to stock and merchandise your cameras this upcoming year make their decisions at the end of the prior-year).

Gaining/Losing Retailers. *How many retailers in a region that will decide at the end of the current year to stock and merchandise your company's brand of cameras the following year is based on five factors:*

1. Your brand's share of action-capture camera sales this upcoming year in that region. Other things being equal, action-camera retailers are more attracted to stock and merchandise high-share brands than low-share brands.
2. Your company's P/Q ratings for its line of action cameras this upcoming year. Other things being equal, camera retailers are more attracted to merchandise brands with high P/Q ratings as opposed to brands with low P/Q ratings.
3. The number of week-long sales promotion campaigns your company undertakes this upcoming year as compared to the regional all-company average. Retailers like a bigger number of sales promotion campaigns because of the added store traffic and sales volume such campaigns generate.
4. The size of the discount offered to camera retailers during the weekly sales promotion campaigns. Obviously, camera retailers in each region view discount percentages that are above the regional average more favorably than discounts that are below the regional average.
5. How much your company spends this upcoming year to support the merchandising efforts of your retailers in each region as compared to the regional average of all camera-makers. Not surprisingly, camera retailers consider relatively high or above-average amounts of merchandising support as a positive factor as compared to lesser amounts of support.

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Price-Cost-Profit Breakdown

The following items in the Price-Cost-Profit Breakdown section are linked directly to the projections of how many action cameras are expected to be sold in each region.

Wholesale Price — This number for each region always corresponds exactly to the price entered in the decision box for "Average Wholesale Price to Retailers" at the top of the page.

Promotional Discounts — Some of the company's camera sales are, of course, made during those weeks when sales promotion campaigns are underway in a region and when the company has discounted its price to retailers to enable retailers, in turn, to discount their regular retail selling price to camera buyers. The size of the downward adjustment for promotional discounts for a region is governed by the number of weeks your company opted to conduct sales promotion campaigns in that region and by the size of the promotional discount offered to retailers in that region.

Exchange Rate Adjustment — The size and direction of the exchange rate adjustment for each region typically varies in accordance with whatever real-world exchange rate fluctuations occurred between the beginning of the prior-year decision round and the beginning of this upcoming year's decision round.

- *The company's sales price for cameras sold to retailers in North America is adjusted up or down for exchange rate changes between the U.S. dollar and the Taiwan dollar.*
- *The company's sales price for cameras sold to retailers in Europe-Africa is adjusted up or down for exchange rate changes between the euro and the Taiwan dollar.*
- *The company's sales price for cameras sold to Asia-Pacific retailers is adjusted up or down for exchange rate changes between the Singapore dollar and the Taiwan dollar.*
- *The company's sales price for cameras sold to retailers in Latin America is adjusted up or down for exchange rate changes between the Brazilian real and the Taiwan dollar.*

Remember that the sizes of the exchange rate adjustment each year are always equal to 5 times the actual period-to-period percentage change in the real-world exchange rates for US$, €, Brazilian real, Sing$, and Taiwan$ (multiplying the actual % change by 5 is done so as to translate exchange rate changes over the few days between decision periods into changes that are more representative of a potential full-year change). However, because actual exchange rate fluctuations are occasionally quite volatile over a several-day period, the maximum exchange rate adjustment during any one period is capped at ±20% (even though bigger changes over a 12-month period are fairly common in the real world). The *GLO-BUS* system accesses all the relevant real-world exchanges rates and does all the pertinent calculations, thus relieving you and your co-managers from mastering the intricacies of the exchange rate adjustments.

Options for Dealing with Favorable/Unfavorable Exchange Rate Adjustments. While you do not have to worry with the mechanics of calculating exchange rate adjustments, you do need to concern yourself with what actions, if any, to take to mitigate the unfavorable/negative exchange rate impacts and to capitalize on the favorable/positive exchange rate adjustments shown on the decision page. *There are several ways to counter the adverse effects of unfavorable (those with a minus sign) exchange rate adjustments.* One option is to adjust sales and marketing efforts in a manner that results in (1) added sales in those areas where the exchange rate adjustments are positive (favorable) and (2) somewhat smaller sales in the regions where the exchange rate adjustments are negative (unfavorable). Another option is to raise the selling prices in a particular region to help offset negative revenue adjustments and realize higher net revenue per camera sold. Because all competing companies have assembly facilities in Taiwan and are thus subject to much the same favorable/unfavorable exchange rate impacts on net revenues per camera sold, you may be able to make offsetting price adjustments without much risk of putting your company at a price disadvantage.

Net Revenue Per Unit — The net revenue numbers in each region equal the average wholesale price to retailers (as entered in the box on the first row of the page) *adjusted downward* for the effects of the price discount during weekly sales promotions (see the two entries for sales promotions) and then adjusted upward/downward for the effects of shifting exchange rates. Net revenue per unit, in effect, is the "actual cash" amount in US dollars that the company is projected to receive on each action camera projected to be sold in each region.

Cost of Units Assembled — the $/Unit number is calculated by dividing the projected total production costs of the cameras that will need to be assembled and shipped to retailers in the region by the number of cameras projected to be sold in the region (see the first row in the Marketing Statistics section).

Delivery Costs — the $/Unit number represents the costs per camera sold that will be incurred for shipping ($5 per camera in all regions) and import duties (import duties are $0 for North America, 4% of the average wholesale price to retailers in Europe-Africa, and 6% of the average wholesale price to retailers in both Latin America and the Asia-Pacific).

Both shipping costs and import duties are subject to change by your instructor (you will be notified of such changes).

Marketing Costs — the $/Unit number equals all marketing costs incurred in the region (as a direct consequence of the decisions entered on this page) divided by the *projected* number of cameras to be sold to retailers in the region.

Administrative Expenses — your company's camera-related administrative expenses are allocated to each region based on that region's *projected* percentage of total cameras sold worldwide. The $/Unit number represents the total amount of the company's administrative expenses for its camera assembly facility allocated to each region divided by the projected number of cameras to be sold to retailers in the region. This generally accepted accounting procedure for allocating a company-level expense to different geographic regions results in the same administrative cost per camera sold in all four regions.

Total Operating Cost — the $/Unit number equals net revenues per unit less all projected operating expenses per camera sold (cost of units assembled, delivery costs, marketing costs, and administrative costs). Interest payments and taxes are not part of operating expenses, as per general accounting principles.

Operating Profit — the $/Unit number for projected operating profit is calculated by subtracting *projected* total operating cost per camera sold from *projected* net revenues per camera sold.

Operating Profit Margin — the projected percentage for operating profit margin equals projected operating profit per camera sold divided by projected net revenue per camera expected to be assembled, shipped and sold to retailers in each region.

Projected negative operating profits per camera sold and the associated projected negative operating profit margins in any region are red flags that company managers should address/correct immediately. The same can be said of operating profits per camera sold and operating profit margins that, while positive, are nonetheless "too small" to produce attractive profitability.

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Competitive Assumptions

The role of the Competitive Assumptions is to provide you with a means of improving the accuracy of the projections of your company's unit sales, market shares, and operating profits in each region as well as the seven projections of your company's overall performance in the box under the Decisions/Reports menu. You should be wary of performance projections that are based on the backward-looking prior-year regional average levels of competitive efforts when the regional-average levels of competitive effort in the current year will most probably differ from those in the prior-year.

There are multiple reasons to expect that the competitive efforts of rivals will, on average, not just be different from prior-year levels but will be somewhat stronger than the previous year:

1. Poorly performing companies that were outcompeted last year have strong incentive to strengthen their competitive efforts (particularly those where they suffered from competitive disadvantages).

2. High-performing rivals may well try to open up a wider competitive advantage on certain competitive factors to further enhance their prior-year's performance.

3. Companies that were surprised by unexpectedly strong competitive efforts by one or more of their close rivals and, as a consequence, suffered a loss of sales and market share in one or more regions, may well retaliate with much strengthened competitive efforts of their own to recapture their former market share(s)—or even increase them.

4. Ambitious companies, intent on overtaking the industry leader, might well opt to boost their competitive efforts on one or two competitive factors by significant amounts and thus achieve a big competitive advantage that they hope will propel them into an industry-leading position.

5. Some (most?) companies are likely to try to enhance their camera sales and market shares in those particular regions where their sales/market share performance was weakest and/or where their operating profits were lowest.

6. Industry-leading companies have a strong incentive to strengthen their own competitive efforts—they will not remain industry leaders for long by sticking with status quo competitive efforts across the board. It is not farfetched for an industry leader to boost its competitive efforts on a competitive factor where they have had a big competitive advantage—and thus try to widen their competitive advantage over rivals.

7. All firms have an incentive to adjust their competitive efforts in one or more regions to improve their company's overall performance and thereby meet or beat the periodic and sometimes annual increases in the investor-expected performance targets.

A good argument can be made, therefore, that company managers should expect competition to intensify in the current/upcoming year and in later years, thus resulting in higher regional-average levels of competitive effort in at least some, perhaps many, of the competitive factors governing regional sales and market shares. After all, if you are considering making different marketing decision entries (or increasing/decreasing the P/Q rating of your cameras or changing the number of models offered) to improve your company's profitability and performance, then the co-managers of most other rival companies are also likely to be considering how to alter the makeup of their competitive efforts in order to improve their company's profitability and performance.

Updating the Competitive Assumptions. Adjusting the regional averages definitely involves much speculation and guesswork in Year 6 because there is no track record to go on in judging what rival companies, on average, will do differently. It is a bit easier in Year 7 to make updates because you at least know how much the regional averages changed from Year 5 to Year 6 (see the 4-page Regional-Average Competitive Efforts selection on the Competitive Intelligence Report menu). Updating gets a bit easier still headed into Year 8 because you have two years of history about the changes in the regional averages. As a rule, as you become more familiar with strategies and competitive maneuvering of rival companies and as the historical record of changes in the regional averages becomes larger (as reported in the Regional-Average Competitive Efforts selection on the Competitive Intelligence Report menu), the task of updating the regional-average competitive assumptions can be done quicker and usually with greater accuracy.

Beginning with your decision entries for Year 7 and every year thereafter, make it a point to ***review the year-to-year historical changes in the Regional Average Competitive Efforts report in the Competitive Intelligence Reports menu to see the trends in how each of the regional average competitive factors have changed for all years/decision rounds to date***. Make a printout of all four pages to have at your fingertips when you start to update the prior-year regional averages for both AC cameras and UAV drones. But be alert to the fact that historical trends should not be relied on 100% relied on for anticipating the actions of competitors—historical trends may or may not be a reliable basis for projecting the future actions of rival companies.

For your updates to have a forward-looking element, you need to consult the information in the Comparative Competitive Efforts section of the most recent Competitive Intelligence Report and specifically try to identify which companies are likely to make changes in which competitive efforts.

- Check out the competitive factors where poorly-performing were at a big competitive disadvantage against the industry average, region-by-region. Poorly-performing companies (easily identified by their low scores on the five performance measures on pp. 2-3 of the Industry Scoreboard in the Camera & Drone Journal) have a big incentive to correct (or at least narrow) their big competitive disadvantages and boost their overall competitive efforts by enough to improve their company's profitability and meet/beat the five investor-expected performance targets.

- Check out which other rivals were also burdened by one or more competitive disadvantages that give them good reason to *consider* at least narrowing and maybe totally eliminating some (many? or all?) of these disadvantages on the various competitive factors in all four regions. Do you see any reason to suspect that several companies may try to turn one or more of these former competitive disadvantages into competitive advantages. You are urged to use the *Time Series Competitive Efforts* report on the Competitive Intelligence Report menu to easily track the competitive maneuvering of an industry leader or close rival or any other company of interest for all years completed to date to try to anticipate what moves a company may make in the upcoming year.

Thoughtful analysis of the information on the four pages of the most recent Comparative Competitive Efforts report, used in conjunction with the year-to-year changes in the regional-average competitive factors, will help you decide how much to raise/lower (or leave unchanged) the prior-year industry averages. ***On balance, you should usually find reasons to expect that competition will intensify somewhat in the upcoming years as all companies undertake efforts of one kind or another to improve their profitability and overall performance.***

Recommendation #1*:** Probably the safest or most conservative assumption about the prior-year averages is that the *overall* competitive efforts of rivals will, *on average*, be "a little stronger" or "slightly stronger." This does not automatically mean that the regional averages of all 9 of the competitive factors will change in ways that produce stronger competition. Slightly stronger competition could mean adjusting the prior-year industry averages downward in the case of the average wholesale price to retailers by, say, $2 to $5, upward by 0.1 to 0.3 in the case of P/Q rating and number of models, and perhaps $100 to $250 in the cases of advertising and website spending, 1-3 weeks in the case of sales promotions, a couple of percentage points in the case of price discounts during sales promotions, and maybe as much as a 30-day jump in the warranty period in Years 6-8 because some companies are likely to boost the length of the warranties to 90 days or 120 days or even to 180 days (but changes are likely to drop to the 5 to 15-day range in later years as fewer companies make warranty period changes). ***Be cautious about adjusting the regional industry averages up or down by "large" percentage amounts. "Big year-to-year changes" in the industry averages occur infrequently, mainly because all rivals are unlikely to make competitive changes in the same direction.

- However, in Years 8-12, should a price war break out or if several camera-makers aggressively step up their marketing efforts for advertising, website displays, retailer support, and /or sales promotions to win bigger sales/market share in a region, then "somewhat bigger" adjustments in some/many of the regional averages may be appropriate.

- On the other hand, if competition in the prior year or two has been especially brutal, such that profits across the industry have plunged, there may be reason to assume some/many companies will *not* further intensify their aggressive and costly marketing efforts to pursue "profitless" gains in unit sales and market shares, in which case you may leave many of the prior-year industry averages unchanged (or possibly even assume that a few companies will cut back on certain competitive efforts, like advertising or website displays or warranties, in an attempt to trim losses/restore profitability.

Recommendation #2: Try out graduated adjustments in the Competitive Assumptions (most especially for price to retailers and for P/Q rating because they are such important competitive factors) and observe the different impacts on the on-screen projections. Then see what changes in your own company's competitive efforts may be needed to counteract/defeat the potential changes in the competitive efforts (small or large) of rivals in order for your company to achieve the desired levels of company performance you are targeting. This will give you a better feel for what entries to make in the marketing decisions boxes and perhaps whether to return to Product Design page and make changes in the number of models offered and/or P/Q rating. *Achieving increased unit sales and market shares in an industry environment where competitive conditions are growing stronger will take a stronger competitive effort on your company's part (in the form of lower price, higher P/Q rating, more advertising and promotional efforts, and so on) than if competitive intensity remains about the same or grows weaker.*

Tip: Slightly overestimating the amount by which the overall regional-average competitive efforts of rivals will grow stronger can often result in better performance outcomes for your company than underestimating how much the overall regional-average levels of competitive effort will rise in the current/upcoming year. This is because if competition is weaker than expected, your company will have stronger-than-projected demand for AC cameras and will actually end up with bigger sales/market shares than were projected, provided your company has sufficient idle workstation capacity to assemble and fill the unexpected orders from buyers. It is easy enough for your management team to make it standard practice in your camera assembly facility to always have several more installed workstations than needed to supply projected demand, just in case buyer demand in the upcoming year turns out to be higher than expected. On the other hand, if you underestimate the strength of rivals' competitive efforts, sales/market shares will turn out to be lower-than-expected and the company's overall performance will be worse than projected.

Consequently, when the results come out, it is far better to have the pleasant surprise of discovering your company actually sold more than the projected sales volume in one or more regions rather than experiencing the unpleasant surprise of learning that your company sold less than the projected sales volume because you and your co-managers underestimated the strength of the competitive efforts from rivals, and they captured some of the sales and market shares you were expecting to get. You can live happily with the good surprise of better-than-expected results, but the bad surprise of weaker-than-expected results is obviously something your company should try to avoid.

Remember: Improving the accuracy of the projections of upcoming-year performance by thoughtfully assessing what levels of competitive effort that rivals, on average, are likely to undertake in the upcoming year and using these assessments to update entries for the 9 competitive factors in the Competitive Assumptions section ***has the added benefit of helping your company win score-boosting Bull's Eye awards (see page 3b of each year's Camera & Drone Journal)***.

Is It "Absolutely Necessary" to "Update" the Prior-Year Regional Averages? The short answer is "no." How you run your company is your responsibility. Just be sure you are content to accept and deal with whatever *inaccuracy may exist in the region-by-region projections of unit sales, market shares, unit costs, and operating profit* that are calculated on the basis of how your company's competitive efforts this upcoming year stack up against *last year's* overall competitive efforts of rival companies. So, if you don't want to take the time and trouble to develop your own reasoned judgments about the likely overall competitive efforts from rivals your company will face in this upcoming year), then you can most definitely skip the task of updating the values in the Competitive Assumptions boxes (*but doing so is definitely not recommended*).

Important: How far off the on-screen projections of unit sales, market shares, unit costs, and operating profit will turn out to be from the actual results depends on the extent to which the *adjusted or unadjusted* values for the various Competitive Assumptions differ from the actual industry averages that appear in the upcoming year's Competitive Intelligence Reports—the smaller the differences, the closer the projections will be to the actual results; the bigger the differences (especially as concerns wholesale price and P/Q rating), the greater the projections will differ from the actual results.

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More Details about the Exchange Rate Adjustments

As discussed earlier, exchange rate adjustments result from producing cameras in Taiwan (where the local currency is Taiwan dollars) and selling them to retailers in other parts of the world (where local currencies are different). These adjustments stem from two things:

1. Camera orders, camera shipments, and retailer payments for cameras all occur on different dates, and currency exchange rates on these different dates are almost certainly going to be different.
2. The local currency payments of camera retailers have to be converted into Taiwan dollars and ultimately into U.S. dollars (since the company reports its financial statements in U.S. dollars).

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 agreement is complex but the essence of the arrangement calls for the net revenues the company actually receives on cameras assembled and shipped from the Taiwan assembly facility to retail dealers in various parts of the world to be subject to exchange rate fluctuations in four local currencies (the U.S. dollar, the euro, the Brazilian real, and the Singapore dollar) against the Taiwan dollar. For simplicity, both of the reasons for currency adjustments are combined into a single adjustment based on the real-world currency swings during the period from one decision round to the next as concerns the U.S. dollar against the Taiwan dollar, the euro against the Taiwan dollar, the Brazilian real against the Taiwan dollar, and the Singapore dollar against the Taiwan dollar). More specifically:

- *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.* Should the exchange rate of U.S. dollars per Taiwanese dollar fall, say from 0.250 to 0.245 U.S. dollars per Taiwan dollar, then retailer payments of the agreed upon number of U.S. dollars per camera at the time the order was placed equate to more Taiwanese dollars at the time of payment and an *upward* (favorable) adjustment in the company's revenues. Conversely, when the exchange rate of U.S. dollars per Taiwanese dollar rises, say from 0.250 to 0.255 U.S. dollars per Taiwan dollar (meaning that a specified number of U.S. dollars equate to fewer Taiwanese dollars), then the company does not receive as many Taiwan dollars in payment for the cameras sold and shipped to North American retailers and the revenue adjustment is *downward* (unfavorable).
- *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.* Should the exchange rate of euros per Taiwanese dollar fall from one decision period to the next, say from 0.250 to 0.245 euros per Taiwan dollar, then retailer payments of the agreed upon number of euros per camera at the time the order was placed equate to more Taiwanese dollars at the time of payment and an *upward* (favorable) adjustment in the company's revenues. Conversely, when the exchange rate of euros per Taiwanese dollar rises, say from 0.250 to 0.255 euros per Taiwan dollar (meaning that a specified number of euros equate to fewer Taiwanese 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* (unfavorable).

- *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.* Should the exchange rate of Singapore dollars per Taiwanese dollar fall say from 20.40 to 20.35 Singapore dollars per Taiwan dollar, then retailer payments of the agreed number of Singapore dollars per camera at the time the order was placed equate to more Taiwanese dollars at the time of payment and an *upward* (favorable) adjustment in company revenues. Conversely, when the exchange rate of Singapore dollars per Taiwanese dollar rises, say from 20.40 to 20.45 Singapore dollars per Taiwan dollar (meaning that a specified number of Singapore dollars equate to fewer Taiwanese dollars), then the company does not receive as many Taiwan dollars in payment for the cameras sold and shipped to Asia-Pacific retailers and the revenue adjustment is *downward* (unfavorable).
- *The net revenues received from sales to Latin American retailers are adjusted up or down for exchange rate changes between the Taiwan dollar and the Brazilian real.* Should the exchange rate of Brazilian real per Taiwanese dollar fall, say from 10.65 to 10.60 real per Taiwan dollar, then retailer payments of the agreed upon number of Brazilian real per camera at the time the order was placed equate to *more* Taiwanese dollars at the time of payment and an *upward* (favorable) adjustment in the company's revenues. Conversely, when the exchange rate of real per Taiwanese dollar rises, say from 10.65 to 10.70 real per Taiwan dollar (meaning that a specified number of Brazilian real equate to fewer Taiwanese dollars), then the company does not receive as many Taiwan dollars in payment for the cameras sold and shipped to Latin American retailers and the revenue adjustment is *downward* (unfavorable).

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