Pricing for Software Product Managers

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Table of Contents

The Need for Pricing

Pricing has far reaching effects beyond the cost of the product. Pricing is just as much a positioning statement as a definition of the cost to buy. Price defines the entry threshold: who your buyers are and their sensitivities, which competitors you will encounter, who you will be negotiating with and what the customers' expectations will be. Good pricing will remove the price issue from being an obstacle to a sale. Pricing is also used as a weapon to fight the competition as well as gray markets. Pricing is unique from other marketing decisions for several reasons:

- Price is the only marketing element that produces revenue. All other marketing decisions produce costs.
- Pricing is the most flexible marketing decision.
- Pricing reflects a product's strengths and weaknesses. It implies value as well as positioning.
- Pricing has the most immediate impact on the bottom line. In the high tech industry, a 1% increase in prices can lead to a 10% (or more) increase in profit. This

is twice the effect that the same change in volume, fixed or variable costs have on profits.

Pricing Software Products

When it Comes to Pricing Software, Economics 101 is not Applicable

When pricing software, the “Economics 101” taught in college is irrelevant. There are many reasons for this:

1. Supply and Demand curves are based on the assumption that the marginal cost for manufacturing additional products is non zero and that it decreases with quantity. In the software industry, the marginal cost for an additional copy of software is zero.
2. Estimating price elasticity for a specific product is practically impossible. Hence, pricing decisions cannot be based on supply and demand curves.
3. Estimating the potential market for a product is possible but estimating demand is problematic. Most customers tend to be enthusiastic when seeing a new product but their input is not a good indicator for real demand.
4. For enterprise software, sales numbers are too small for a statistical significant study. By the time a company has sold enough licenses, it has advanced on to a newer version or the market has changed or both.
5. For most products, there are competing products and their influence on the demand curve is hard to estimate.
6. Product life cycles are short, making comparisons more difficult.
7. Purchasing decisions are complex and are influenced my many, constantly changing factors.

When setting the price for a software product, classical economic theory comes up short. Here is an empirical, iterative method arrive at a price.

Guidelines for Setting the Price of Software in Existing Markets

The purpose of these guidelines is to arrive at the "right" price. This is the price that lets the company accomplish its goals for revenue, profit, market share, renewals, etc. The method detailed below will help you identify the highest price a market with existing competitor presence will bear:

1. The price of the software must be less than the ROI it provides. The smaller the ratio of the ROI to the cost of the software, the easier the sale.
2. Create a market segmentation chart based on feature sets. Identify all competing products and place them on this chart. Identify and group the value elements in the product that address the needs of each of segment. For each segment, identify the features that customers are willing to pay extra for and that differentiate your product from the competitor’s. Attach a price tag to the value of each attribute that is not identical such as:
    a. The feature and functional differences.
    b. The difference in brand value that customers attribute to the products.
    c. The difference of cost for implementing the respective products.

d. Any other item that customers attach value to such as localization of the application, geographic proximity (for services) etc.

If the product excels in a certain aspect, then simply add that value to the price, if it lags, simply subtract the value. This step must be iterated for each competing product. The price of the software must be similar or less than that of the main competing product in each segment minus the difference in price that are justified by the functional and other aspects previously identified.

3. The price must be below the purchasing authority of the targeted decision maker signing off on the purchase.
4. The price should be outside the "Death Zone" of $5000 - $20,000. For details on the "Death Zone," see below.
5. The price must fit how the market perceives the product category. For example, desktop utilities – up to $50, productivity tools, up to $500 etc. If the product is priced too high, the price will become an issue. If it is priced too low, customers will perceive it as not worthy.

Guidelines for Setting the Price of Software in New Markets

If there are no reference products, the approach is slightly different. The first step in setting a price is identifying how customers will position it in their mind. If the product is perceived by customers as a utility or productivity tool, price in these ranges. That is, until the product can be positioned (in the buyers' minds!) as belonging to a higher place in the food chain. See below for examples of products and typical price ranges.

If the product does not fall into the previous category, start by defining the price ceiling. This is the highest price based on a product's benefits. A high price will work if early adopters are willing to pay a premium for a new product. However this price level may prove to be unrealistic as there may not be a sufficient number of buyers for a new product at that price level.

Then, choose a "penetration" price. Penetration pricing is used when a product is first launched in order to gain market share. A low penetration price is used to discourage competitors from entering the market and to gain market share. Its drawbacks are lower margins, difficulty in raising prices in the future because pricing expectations are now set and the risk of customers perceiving the low price as a low quality indicator. The penetration price has to be sustainable and higher than the company's variable costs. If possible, the price should be low enough to remove the price of the product from the buying decision.

These two markers set the price range for a new product. Follow the relevant guidelines in the previous section to finalize the price point.

Comments on Setting Prices

1. Before making pricing decisions, you must thoroughly understand your target market's decision-making and buying processes.
2. Properly priced software will not guarantee the company's profitability.
3. The price has to take into consideration what the customers feel is reasonable. For example, market leaders are expected to charge more hence their higher prices can be perceived as "legitimate" (up to a certain level).
4. When deciding on which product competes with your own, the market's perspective is what counts.

5. Internal company parameters such as distribution costs come into play only when looking at the potential profitability of the product. I.e. can the company make money selling the product at a given price point?
6. The price of the software must be higher than the cost of selling it and the margins must be higher than the cost of creating, marketing, selling and supporting it. Or else the product will lose money.
7. Using the pricing model as a differentiator is always worth considering as long as the model is easy to explain and it makes sense to the customer.
8. The costs of training, implementing and supporting the product are perceived as additional costs by the customer.
9. When new to a market, being a small, unknown company minimizes brand value. Lower, "penetration" pricing may be required.
10. If customer segments value the product significantly differently, this may justify segmenting the product for each of these markets.
11. When attempting to price commodity products, it is basically the competition that sets the price of the product. Setting a higher price in a commodity market is limited to the company's ability to differentiate the product from its competition. On the flip side, offering a lower price in such a market is sustainable only if the company has a lower cost structure.
12. When setting the price within a range of competing products, it is important to understand how reference prices affect your customer's price evaluation. This is imperative when customers have limited product or price knowledge.
13. Just like other aspects of the product, pricing needs to follow the technology adoption lifecycle of the product. Early market buyers may be interested in your product but tend not to be willing to pay its full price. It may make sense to price the product at its target price for larger markets and offer early adaptors the product at a discount.

The Software Price Dead Zone

The Pricing Dead Zone is a price range between $5,000 and $20,000. Some would even say that the range extends up to the $40,000 - $50,000 range. Software products in the "Dead Zone" are the exception. This is because software priced in this range is hard to sell profitably. Products that cost less than ~$5,000 can be sold over the web or through channels. A purchase of this size is within the decision authority of middle managers and there is no need for on site visits to close a sale. More expensive products require higher level signing authority or purchasing committees. A committee's decision can cause the sales cycle to drag on for months and get entangled in internal politics. These products require sales reps' on-site visits but have to produce enough profit to support this type of sales effort. $20,000 is at the bottom of the price range that can support a complex sales process. The exact boundaries of the "Dead Zone" depend on the specifics of how the product is sold.

Typical Software Price Ranges

- Utilities cost up to the $50 - $70 range. Purchases of utilities are many times spur-of-the moment decisions. Customers need to feel that the potential financial risk of buying the wrong product is minimal.

- Productivity tools – $100 to $500. These are purchases that are within the budget of a low level manager.
- Professional tools – $1000 to $5000. Applications that are required by professionals to do their job such as computer aided design tools such and many others.
- Enterprise applications - $20,000 and up. Applications that impact many functions and departments in the customer's organization and that require an evaluation process and sometimes, a purchasing committee. Selling into such a customer is many times a costly and labor-intensive process.

Perpetual vs. Subscription Licensing

Subscription software is an application that is "rented" on a temporary basis. Licensing is usually on an annual basis but monthly terms are available as well. Salesforce.com is a classic example of a hosted product that is priced per user per month. Subscription licensing works when customers see an ongoing benefit from the software. From the customers' perspective, it lets them buy into the product while minimizing their initial investment and exposure. From the ISV's perspective, it keeps them focused on making the customer successful with the product rather then the "fire and forget" approach to selling software.

Moving from a perpetual license to a subscription model increases the vendor's risk as it becomes easier for customers to bail out on them. It may also have a negative effect on the short-term stock price due to Wall Street's focus on quarterly revenue vs. cash flow as the vendor is mortgaging their present for their future. This is because, over time, the income statement reflects the growth from prior years' bookings, as the deferred subscription revenue is transferred to the income statement. Over the long term, the subscription model allows for significantly better revenue visibility and consistency. This is beneficial, as Wall Street loves companies that make their numbers. For example, when signing a three-year license for $100,000, one twelfth of it can be recognized each quarter with high certainty. In such a case, cash flow becomes the much more representative indicator of income. This works as long as the renewal rate is high.

By offering a subscription-pricing model, customers face smaller payments. From the sales reps' perspective, a lower initial price lets them aim their pitch lower in the customer's organization. Another advantage for the sales process is that a calculating an ROI on a shorter time scale makes it more tangible, hence helping the sale along.

When offering a subscription model, the vendor is betting their future on their ability to keep customers. For hosted apps, setting up a hosting environment, can be very costly and by doing so, the vendor is basically giving customers a loan that will be paid back over the length of the contract. This creates additional risks that vendors may want to steer away from.

So now, the bottom line. How much do you charge for a subscription model? There are no axioms here but many companies charge one third of the cost of a perpetual license for an annual term. When offering a subscription model, maintenance is usually mandatory.

Pricing Maintenance and Support

For enterprise applications, 18% to 20% of the list price is the "standard" cost of support [1]. This usually includes support over the phone for a single contact from the customer during regular business hours as well as product updates (both point and major releases). More advanced packages that include 24/7 support are priced higher, in the 20-25%

range and require a minimum of $30,000-$100,000. Minimums of $200,000-$300,000 are the norm for packages that include assigned support engineers. Onsite support should always be priced as an extra.

Most companies have a no-discount policy on support. That is, even when the software is discounted, the support pricing stays at a percentage of the list price. Very large deals may justify a discount. For example, if all support calls are routed from a single person at the customer. One approach is to give away a few months of the first year. Psychologically, it's better to give away "months" than to lower the price of the yearly contract.

For non-corporate users, there are two basic models for providing support:

- The per-incident model: The most common model for personal support is "per incident"—that is, a flat rate for resolving each support question, regardless of call length. The median per-incident price for surveyed companies [2] that offer this option is now $100, with 50% of these companies charging per-incident prices between $35 and $185. Support for developer tools and more technically advanced issues run into the hundreds of Dollars per incident. For example, a call into Microsoft's tech support for developers costs $245. These models typically include a refund if the problem is determined to be a defect in the vendor's product.
- The per-minute model: A less-popular model is a "per minute" rate. Here, there is less variation in pricing: The median per-minute price is $2.71 and the 50% range is $2.00 to $2.95. Note that the $3.00 per-minute rate is one of the few service prices where there's significant customer sensitivity and pushback.

Discounting and Non-Linear Pricing

Discounts come in two variations, scheduled and negotiated. Scheduled discounts are those that are pre-approved by the company, based upon pre-defined criteria such as the volume of the purchase. Negotiated discounts are an ad-hoc result of the sales process that differ from or go beyond the pre-set scheduled discounts. This article will only discuss scheduled discounts.

Volume Discounts

There are multiple reasons why ISVs offer volume discounts:

- Many times, the utility to the customer of additional licenses decreases as volume increases. To guarantee that the value to the customer is more than the price of the software, the price must decrease as the volume goes up.
- In many sales situations, the cost of sale per unit decreases. This savings can be then passed on to the customer.
- A volume purchase increases the customer's investment in your product and reduces the chance of their buying the competitor's product.
- Large customers are convinced that it is their God given right to pay less per unit than smaller customers.
- Buying more units now than in the future has a discounted current value.

Once a discount is offered, buyers will assume that that discount—or a better one—will be offered for all future purchases.

Before offering discounts, you have to understand the impact on revenue. When offering a 10% discount at a contribution margin of 70%, you'll have to increase sales – above baseline – by 17% to make a positive contribution to profit. For more on how to calculate the volume changes needed to compensate for a change in price, see Appendix B.

Calculating Volume Discounts

The way most companies calculate their discount schedules is surprisingly off the cuff. They simply decide how much money they would like to get from a large target customer per user and then draw a curve between the price of one unit and the price of a unit at the high volume level. They then stand back, look at the curve and play with it until "it looks good."

Another, more rigorous method for calculating volume discounts, is to select a consistent discount rate for every growth in units. For example, a 10% discount on the 10 – 20 units, a 10% discount from the previous price on the next 10 units (=a 19% discount from the original price) and so on.

For three slightly different ways of calculating volume discounts, see Appendix C.

MarketShare's report on discounting in the software industry [3] found that:

- Discounting is widespread, and significant. All the companies surveyed reported using discounts, and those discounts averaged nearly 40% of list price.
- Company growth rates appear to be inversely related to the extent of discounts allowed by respondent companies, with respondents in faster growing companies reporting discounts that were nearly 20 percentage points less than discounts given by slower growth companies.
- Nearly 75% of respondents acknowledged one or more important benefits to monitoring discount activity.
- The actual extent of discounts given is not generally known nor documented by respondents. Less than 50% of respondents reported that they track discounts either frequently or regularly.
- Negotiated discounts were significantly lower in companies where discounting is tracked. Negotiated discounts by "trackers" averaged approximately 7 percentage points below what was allowed by "non-trackers."

VAR Discounts

Value Added Resellers (VARs) get the software they resell at a discount. Discounts are typically between 40% and 60%, depending on the marketing and sales efforts required by the VAR to promote the software. Many companies incentivize VARs by creating volume thresholds that increase their discount level. Tier discounts require VARS to commit to sales volume. For example, a15% discount for no commitment, 35% for very serious commitments. VARs receive training & licenses for an additional cost. Just as a comparison, reference partners whose activities are limited to referring customers to the vendor, get 5-10% of the deal.

When setting a pricing schedule for VARs, one must take into consideration that the VAR has to make a profit and may be feeding their own distribution channels. This approach is relevant to OEM pricing as well.

OEM Pricing

One of the difficulties of pricing OEM deals is that there are no industry standards or accepted price ranges. A recent survey by SoftLetter [4] shows that:

- Royalty-based payments are by far the most common model (92%) and the rest are "flat fee" deals.
- Royalties paid for OEMing are "all over the map" and range anywhere from 1% to 60%. The data doesn't show a distinct median or a bell curve around a specific royalty level so "average rates" are not applicable.
- The median deal size for royalty-based OEM contracts is $875,000, compared to only $200,000 for flat-rate deals.
- Exclusivity yields twice the median royalty rate and almost twice the median deal size compared to nonexclusive licenses ($1,500,000 vs. $800,000).
- Stand-alone products yield significantly higher royalty rates - 30% vs. 6% for embedded or integrated features.

When signing an OEM agreement, some companies require an up front fee for Non Refundable Engineering (NRE). NRE are engineering efforts needed to tailor the product to the OEM's specific needs. NRE fees include charges for developers, QA and project management. These fees can easily run into the six digits. Some OEM deals will tier their pricing based on the up-front fees and volume commitment. As a rule of thumb, the higher the commitment and up-front fee, the lower the royalties. See below for more details.

Site Licenses

Site licenses give customers unlimited use of a product across their enterprise while paying a flat fee. A buyer's request for a site licenses is mostly a purchasing ploy. Their reasoning is that with a site licenses they don't have to worry about counting seats. However, it's only another way to ask: "what is your best price?" One problem with this model is that as a vendor, you lose your ability to track the number of installations at the customer site, and if your product is successful, you will be leaving money on the table. Another drawback of site licensing is that when you sell a site license, you have effectively lost that customer for any repeat sales. If you are concerned about getting the product in front as many users as possible, just offer steeper discounts to encourage proliferation and use. Hence, rule #1 for site licensees for vendors: avoid them.

If you must, here are a few tips on making site licenses work [5]:

1. Make sure the site license fee bears a relation to the value derived by the customer. Have a site license price schedule that will ensure that a customer with a small number of users (or whatever you want to count) should pay less in total than the same application licensed to a large company. Whatever measure you use, make sure it is public. Consistency is probably better than accuracy and reduces the room for manipulation.
2. Site licenses need to be limited to a specific site so any changes to the site will trigger additional payments. This is especially important when an industry is consolidating and physical sites are sold off and logical or virtual sites are expanding.
3. Maintenance and support fees can be independent of the license fee and can scale independently (e.g. number of employees, number of updates distributed,

etc.) Maintenance and support does not have to be fixed so it can provide the upside that a site license limits.

Site licenses must provide adequate safeguards so keep usage within the boundary of the site. Customers may not want to count "seats" but they need to have a means for controlling the use of the product.

Academic Pricing

From a pricing perspective, products that are sold to academia can be divided into two. Products that are used for teaching and that a company can expect the students to purchase later in their professional career and all other products. For the former, companies tend to price their products at a deep discount. For the latter, ISVs usually offer up to 40% discounts. A slightly different approach is for ISVs to start academic pricing at the "second copy" price. In other words, the discount offered is what they would give normal commercial users for purchasing a second copy.

Re. hardware products – due to the lower margins, vendors cannot offer the same level of discounts that software vendors offer. Whatever discounts are available, they are much smaller.

Pricing Discrimination

Price discrimination is a technique for maximizing profits by offering the same or similar product at different prices to different customers. The idea behind this is to set prices so that purchasers who are able and willing to pay higher prices do so. Pricing discrimination allows vendors to capture additional market share by addressing segments that attribute a lower perceived value to the product.

Price discrimination can be explicit or implicit. Explicit price discrimination is when a special price is limited to customers who meet certain criteria. For example, academic pricing is a form of explicit price discrimination because only students and faculty can buy at that price. Implicit price discrimination is when all customers are technically eligible for the special price, but the vendor inserts a condition that makes it unattractive to some. For example, rebate programs are a form of implicit price discrimination.

The justification behind price discrimination is that different market segments value the product differently and will therefore be willing to pay varying prices. If segment A values the product at $1000 and segment B values it at $500, when the price is $900, only segment A will purchase it. If the product is priced at $400, both segments will purchase but with respect to segment A, money will be left on the table.

To make Pricing discrimination work:

- Each segment needs to have a version unique to that segment.
- One market segment cannot buy the product created for another segment.
- The difference in pricing must be justifiable and must not create a feeling with customers that they are being treated unfairly.

Academic pricing is one example of price discrimination where the same product is sold at a discount not available to other market segments. This works because other segments hold a common belief that education is important and that businesses are expected to support it. International pricing is another example of pricing discrimination.

Another common form of pricing discrimination is introductory pricing. The idea behind this technique is to release a new product at a price premium and to lower the price in

time. This is a common technique in the computer chip industry where power hungry buyers are willing to pay a premium for the latest and greatest. The reverse can also be true: introduce a product at a significant discount for a limited period to stimulate early sales and then return to the higher list price once the initial surge of excitement has passed.

Illegal Pricing Discrimination

The Robinson-Patman Act made it illegal for sellers to directly or indirectly discriminate in the price of similar commodities, if the effect hurts competition. This is especially important when selling to distributors and VARs. For example, if a vendor has two distributors that compete with each other, they have to be offered the same basic terms. If one distributor is allowed to buy software from you at a lower price than another, competition is adversely effected because the second distributor, buying at the higher price, will have a greater difficulty in reselling the software.

A detailed discussion of the implications of the Robinson-Patman Act is beyond the scope of this article but it is important to note that there are situations where pricing discrimination is explicitly legal. These include situations where the vendor's manufacturing, delivery or financing costs are different for different customers as well as situations where a competitor dropped their prices. Meeting the lower price is not illegal even if this price is not offered to other customers.

Note that the law applies only to products and not to services.

International Pricing

The international prices of identical products vary many times compared to US pricing. The "uplift" as it's called, varies anywhere from zero to a premium of 50%. This uplift is justified by increased costs due to the need for localization of the product as well as marketing and sales expenditures the vendor faces in foreign markets. The cost of localizing the software has to be considered but in many cases is not the bulk of the investment in foreign sales. Higher support costs are due to the additional languages needed, the more expensive labor (at least in Western Europe) and of course increased business risk. On the flip side, in some geographies such as in Asia, services are less expensive than in the US.

Note that differential pricing in international markets runs the risk of creating a "gray" market for the product.

Another issue that makes international pricing difficult to manage is the fluctuations in exchange rates. There are two approaches to adjusting prices when the exchange rates change:

- Adjust the local price to reflect the price in U.S. Dollars. This approach may cause difficulties in countries where the currency's buying power decreases compared to that of the Dollar.
- Adjust the local price to partially compensate for the change in the exchange rate.

Both should be done with an eye on optimizing sales, taking into consideration how revenue is affected as well as the effect the change has on gray market pressures.

Bundling

Bundling is when a group of products (or services) is offered as a single package. By offering bundles ISVs can increase their sales to segments that would buy only one product. There are two types of bundling:

- Product bundling. Product bundling is when two products are integrated into a single package. The purpose of product bundling is to create a combined product that has more value to customers than the separate parts. An example of product bundling is the Oracle ERP package where the database and application layer are bundled into a single package.
- Price bundling. This is when an ISV provides a discount to customers that buy two or more products at the same time.

There are basic differences between price and product bundling. Whereas price bundling is a pricing and promotional tool, product bundling is more strategic in that it creates added value. Price bundling products does not create added value in itself. Therefore, a discount on their combined prices has be offered to motivate consumers to buy the bundle.

Bundling can be "pure" or "mixed." Pure bundling is when a vendor does not offer any other option but the bundled products. Pure price bundling is basically forcing a customer to buy at least one product that they are not interested in and can be illegal. See below for details. Mixed bundling is when a vendor offers both the bundle and the products separately.

Price bundling is used to:

- Increase sales to segments have different perceived values for the vendor's products.
- Expose a new product to a large customer base.
- Provide product visibility and a low cost opportunity for customers to test a new product.
- By offering bundles, vendors make it difficult for consumers to price-shop.

Product bundling is used to create added value for customers. By using integrated products, customers can increase productivity, performance, lower costs of ownership and reduce purchasing costs.

In both types of bundling, vendors can increase customers' switchover costs by selling them more products than they intended to buy.

An Example Price Bundling

Let's look at two Microsoft products – Word and Excel that cost $250 each when purchased separately. Assume a market segment of office managers that value Word at $350 and Excel at $100. Because Word is priced lower than its perceived value, this segment will buy Word. On the other hand, because Excel is priced higher than its perceived value, this segment will not buy Excel. Assume a second segment of accountants. By contrast, accountants may value Word at $150 and Excel at $300 and will thus buy Excel but not Word. Also, for the sake of simplicity, we'll assume that each segment has one member. In this scenario, each segment will buy one of the products, resulting in $500 total revenue.

A more profitable scenario can be created by bundling both products for $400, a price point that places both products beneath each segment's value for the bundle. Both segments value the bundle at $450, and therefore will purchase it. With this approach, the total revenue is $800.

There are several requirements for successfully implementing a pricing bundling scheme:

- The products are complementary and not substitutes to each other.
- Individual segments have different perceived values for the specific products but similar overall perceived value for the bundle.
- The unit costs for the parts of the bundle must be sufficiently low so that selling bundles at a discount is more profitable than individual products.
- There is no coercion of customers to buy something they do not want.

Compensating for Bundling Affects on Profits

An issue that has to be addressed when offering products as a bundle, is the potential lose of revenue. The higher the variable costs for the products in a price bundle, the larger the increase in sales needed to overcome the discount involved. For example, consider two offerings: a refrigerator and stove costing $2000 and $1000 with variable costs of $1600 and $800 respectively. The second offering is a bundle of a spread sheet and a package of financial macros costing $300 and $100 with variable costs of $20 and $10 respectively. When sold separately the packages will provide $600 and $370 of profit. By offering a discount of 10% on the bundles, the profit will be reduced to $300 and $330 respectively. Therefore, the appliances company has to sell 100% more units to make up for the discount vs. the software company that has to increase sales only by 9% to make up for the discount. For more on how to calculate the volume changes needed to compensate for a change in price, see Appendix B.

Legal Issues When Bundling

All mixed bundling strategies are legal. This is because the customer's ability to choose the product they want is not hindered. On the other hand, pure pricing bundling is illegal if the vendor has "market power." Market power means that the vendor can force a consumer to do something that he would not do in a competitive market or when "a substantial amount of commerce is at stake."

If a vendor possesses market power, pure product bundling is legal only if the benefits to consumers offset potential damage to competition. For example, in the Microsoft vs. DOJ case, Microsoft's claim of consumer benefit was enough to justify the integration of Internet Explorer with Windows. Note that merely combining products together in a single installation does not constitute integration and will be difficult to defend as providing benefit to consumers.

Unbundling

Unbundling is a process where a product offering is split up into modules with some modules becoming optional. By taking a complex product and splitting it into modules, the product can become attractive to additional segments. Furthermore, each segment tends to become less price sensitive regarding the modules they need. For unbundling to make business sense, sales to additional customers have to make up for the optional modules that customers passed over. Another drawback of unbundling is the added complexity to the product. After unbundling the product, there are multiple options for customer installations, managing the product and supporting it increase in complexity.

One risk of unbundling is that if the product becomes too granular, vendors run the risk of giving the customer a feeling that they are "nickel and dimed."

Retail Pricing

Natural Price Points

Natural price points are prices at which there are discontinuities in the price / demand curve. Customers expect to see commodity software products priced at natural price points that are traditionally, $19.95, $29.95, $49.95, $99, $199, $495, etc. The effect of increased demand for $19.95 mouse vs. one that costs $20 may stem from an underestimation mechanism. One explanation is consumers' tendency to round prices down and to compare prices from left to right. [6]

As a side note, the origin of the "$.95" at the end of the price tag was to force cashiers to give customers change.

Temporary Discounts

Temporary discounts are used to stimulate short-term increases in sales and for enticing price sensitive buyers that would otherwise be reluctant to buy at the regular price. A temporary discount can increase customer demand for a product. However, this peak in demand is usually temporary and will many times decrease future short-term demand. Price promotions may entice new, price-conscientious buyers but they can actually hurt future sales to the existing customer base. Promotions are tactical, not strategic, and they need to be managed that way.

By reducing the price of a product, ISVs reduce the risk to consumers trying an unfamiliar product. Assuming that the consumer has a good experience with the product, they will be more likely to purchase it the next time, even without a discount. This is especially true if by using the product, there are significant switching costs for the customer. From a competitive perspective, rebates and other forms of temporary discounts are used to lower prices while attempting to avoid a price war.

When executing a promotion, vendors have to beware that:

- By reducing the price of their product, even temporarily, vendors risk implying that their product has inferior value.
- If a temporary price promotion goes on for too long customers may begin to expect the lower price. The "reference" price is then perceived as expensive and customers are reluctant to pay it.
- The promotion must be targeted to new buyers and not to repeat buyers.

One way to meet these criteria, is by creating a trial offer. This is basically a type of temporary discount. Usually, a condition is attached to emphasize the trial offer's "special nature." This can be done by setting an expiration date to the offer, requiring an additional purchase (a form of bundling) or an exchange of something of value. For example, the customer's agreement to present at a tradeshow on the vendor's behalf.

Rebates and Coupons

Rebates and coupons are discount mechanisms. There are several ways rebates and coupons work [7]:

1. A discount at the register. The discount is given automatically at the register. This has a 100% redemption rate. Due to the high redemption rate, it is not used very frequently.
2. Coupons at the shelf. The buyer needs to tear it off and present it at check-out. Redemption is in the 30% range in the grocery industry and is strongly related to the amount of the coupon. What about the remaining 70% of coupons? They stay in customers' pockets and aren't discovered they get to their cars or do their laundry – e.g., after the purchase has been completed.
3. Mail-in rebates. Redemptions vary depending on the purchaser, the value of the rebate, and the number of steps required to complete the forms. Typically each hurdle will decrease the redemption rate. Rebates that are $10 or less tend to have redemption rates of less than 30%. Rebates of $50 can rise up to 90%. Redemption rates are a critical factor in calculating the actual costs of a rebate program.

In consumer packaged goods inserts in newspapers are frequently used. The purchaser needs to clip these coupons and redeem them at the cash register. Redemptions rates are in the 1-2% range and the percentage is dropping. This is probably due to consumers being more time-pressed than in the past.

Another type of rebate is given to the retailer. These are given after the consumer's purchase and are a form of a discount to the retailer. These rebates are used primarily for adjusting prices to fit the closest natural price point.

Another factor to consider is the cost of administrating mail in coupons. The cost averages between $1.5 and $3, depending on the processing services offered with the rebate program.

Other Pricing Issues

Pricing NRE Projects

Non-Recurring Engineering (NRE) is a one time engineering effort by a vendor that is paid for by a customer. NRE is driven by a feature or capability that a product lacks and a customer wants enough to pay for.

In theory, costing an NRE project is easy. Estimate the engineering hours and overhead costs, add a "fudge" factor for uncertainties and risks and multiply it by your grossed cost rate. The result should then be multiplied by a factor of 5 or so. This is assuming that your company spends 20% of its revenue on R&D[1].

It is critical to understand the reason for this "5" factor, especially when the NRE takes up a significant portion of engineering's resources. If engineering costs amount to approximately 20% of revenue, an NRE project costing X would have a 5x negative impact on sales. This is because the resources used for the NRE were diverted from producing sale-generating products. This indirect cost must be taken into consideration

[1] The SoftLetter Benchmark 50: Research and Development. These figures span 2001 through 2003. 20% is the software industry median. Desktop, Internet applications, and education companies spend the most, 24%, 27%, and 24.5%, respectively.

and not doing so runs the risk of embarking on revenue generating but money losing projects.

A company that is in good financial condition, i.e. not under financial duress, can follow this procedure for costing an NRE projects but a company is on the brink will probably not be able to achieve these premiums.

Support and maintenance costs need to be priced as well. If the results of the NRE efforts are not incorporated into the product and is available only to the customer who paid for it, support is extra. These costs should be more than the going rate to compensate for the added difficulty of supporting code which is basically a one off. This is because each maintenance release becomes an NRE project in itself.

Price Wars

A price war occurs when two companies, drop their prices regularly to close sales. Pricing wars start once the differentiation between products has eroded. Proper product planning and positioning can help prevent a price war by allowing the leading vendor charge a premium. However, if two competing products have similar offerings, as the market matures, price becomes a bigger factor in the buying decision. Unless the vendors can extract themselves from the price war with better positioning, the vendor that is able to offer lower prices over time will win the war.

Reducing prices don't necessarily cause a pricing war. It also depends on where the product is positioned. If it is the highest priced product, dropping the price to be more competitive will probably not result in a price war. If you are the lowest priced competitor, you may serve a different customer segment and your competitors may not respond.

Some factors that increase the likelihood of a price war in a given market are:

- A perception by managers that pricing is an easy to implement and reversible tactic.
- Commoditized products that customers cannot differentiate between them.
- Multiple competitors with manufacturing over-capacity.
- Low switching costs between products.
- High price sensitivity.

One of the ironies of price wars is that while price wars are usually started as an attempt to increase market share, when the dust settles, the respective market shares of the players tend to remain constant but at lower prices and margins.

Gray Markets

A gray market is created when a product that costs less in one market is sold to another market where prices are higher through unofficial channels. There are multiple pressures that can foster the creation of gray markets. These include price differentials or an authorized retailer who can't sell all its inventory may move the leftovers to unauthorized dealers.

A classic example is the current sale of pharmaceuticals from Canada to the US. Canada places limits on the prices of pharmaceuticals and so they are significantly cheaper than in the US. This creates a strong motivation for US customers to import drugs from Canada. Another example is Amazon. Books sell for different prices on the local Amazon websites (see: http://www.pricenoia.com/ for a comparison). What prevents a

German customer from buying a book on the American Amazon website and having it shipped to their home in Germany if they can save money? When it comes to consumer software, where delivery costs are zero, the problem is more pronounced. At the time of writing this article, Norton Anti Virus costs $49.95 in the online store for US customers, $82 (£44.99) for British customers and $76.42 for the Norwegian version. As most customers with a basic knowledge of English can get away with the cheaper US version, Symantec runs the risk of creating a gray market for their products. In this case, European customers buying the US version of the software.

Gray markets can damage channel relationships but the aspect that is relevant to this article is the undermining of the segmented pricing schemes. A important aspect of international pricing is the ability to price at the level that each market can bear. When a gray market forms, it can limit the company's ability to charge a premium in a given market.

In some situations [8], gray market sales outstrip authorized sales. In Malaysia, cell phones purchased on the gray market account for 70% of total cell phone sales. Similarly, in India, sales of gray market personal computers outnumber authorized sales by two to one.

Gray markets aren't always bad [9]. As long as they do not directly clash with the existing channels, there can be beneficial sides to them such as incremental sales and the ability to reach into untapped markets.

Pricing for Large Retailers

Working with software retail channels is quite different than selling to B2B. A few of the differences are:

1. Natural price points are not an option, they are a requirement for pricing any product below $100.
2. Updating prices for some large retailers can only be done at the beginning of a "month". This refers to an accounting month, not a calendar one. TO make it more difficult, different retailers have different accounting calendars.
3. When a retailer's markup is preset, achieving natural price points is done by offering rebates to the retailer.

Price Capping

At times, customers may ask for a cap to future price increases. Pricing caps are a negotiation issue. As in all negotiations, never give away something for nothing. Agree to the price cap in return for something that is important to you. This could be a press release, closing the deal by the end of quarter etc. One trick is to agree to a maintenance cap only if the customer will commit to a number of years or whatever term the customer wants price protection for.

Just remember that like any forward looking commitments, potential buyers of your company would not appreciate long term price commitments that cap your revenue.

One way to reduce the impact of a price cap is to price new features separately. Instead of adding a great new feature into the base product, consider making it an extra option. Offering the feature separately gives you price negotiation flexibility, and makes you seem like a larger company with more products. You can always turn back around and offer a discounted "bundle" that includes both the base product and the extra option.

Two additional issues:

1. By offering price caps, you may get into legal problems with other customers (see the Robinson Patman Act).
2. If you cap increases to customers, make sure that you factor-in any up-stream third party fees that you owe your suppliers. For example, if you can only increase your price by 5% per year and your suppliers don't have caps on their price increases, your margins could shrink. One way to avoid this is to exclude third party fees from the price cap.

Price Protection

Price protection is a program to protect resellers from price decreases within a certain time frame after purchase. In some industries, prices drop so rapidly that companies offer price protection to their distributors and these in turn to their customers. In a price protection program, the vendor will issue a rebate for the difference in prices. This helps insulate buyers against imminent price reductions, so they can feel comfortable going ahead with a purchase, rather than waiting for the next price drop. It helps smooth demand during periods when prices are dropping more frequently, thus improving cash flow. It also helps reduce complaints from customers who are unhappy when they find out that the price of the item they just bought dropped.

How Pricing Affects Sales Methods

As a rule, the lower the price of the product, the less effort vendors can spend selling it. Enterprise applications are costly to sell. Marketing programs for generating leads can cost anywhere from $20 to thousands of dollars per lead at targeted tradeshows. Then there is the time spent by the sales rep qualifying the prospect and traveling to meet him. An onsite sales call typically costs $2000-$5000. It costs roughly $2000 per day to send a B2B sales rep into the field. If the sales rep takes a sales engineer with her, this will entail an additional $2000. Then there's the rep's compensation to factor in. The bottom line is that fully ramped sales reps can cost a company $200,000 - $250,000 a year and more. Therefore, a direct sales force selling $2,000 software is simply not a tenable situation.

Companies selling mid-ranged products usually have inside sales reps that prospect and take orders over the phone. When enterprise-wide deals come up, a specialized sales rep is sent on site. For smaller software packages that vendors want to sell directly, the only solution is to offer the software online and through indirect sales channels such as Amazon and CompUSA.

Charging for Beta Software

Most companies do not charge for the Beta versions of their software. Another approach is to charge the customer for the Beta version and then offer a substantial discount for the final release. The company gets to use the beta version of the product, pays for it and is used as a reference account. When the official version is released, the customer will then "buy" it. How long the reduced price is offered once the product has been released is a matter of negotiation.

What justifies paying for a Beta version of software? Consider the value of being a Beta customer. Customers get:

- A competitive advantage gained by accessing a capability before the competitors do.
- The ability to influence the vendor.

- Improved product support.

Revenue Recognition

If a contract calls for onsite training and service to a customer as part of the deal, the revenue cannot be booked until the service is delivered. A simple e-mail from a sales rep stating that they will send someone onsite to help with the implementation can cause problems since it would be considered as an element of the transaction and the revenue would have to be deferred until the company delivered the service.

Make sure the product roadmap doesn't end up in the contract. If the contract mentions future product features or that it will support a new operating system, the revenue cannot be booked until those capabilities are available in the product. [10]

Pricing Post Mortem

After setting a pricing model, it's always useful to go back and look at the prices that the deals are actually being closed with. In many cases, you will see two things: the average price that deals close at is lower than the list price and a distribution curve of prices. Low closing prices indicate a lack of discipline in the sales force or a price that is set unrealistically high.

When the deal prices fit a wide curve this is a negative indicator and can be caused by:

- Lack of sales process discipline. Sales reps are closing deals as they see fit, squeezing as much (or as little) as they can from customers.
- Customers varying in the value they perceive and therefore the price they are willing to pay.
- Fragmented buying power. The product is being sold into market segments that significantly differ in their ability to pay for a solution.

Testing the Validity of the Pricing Model

The pricing model should always be tested against sales scenarios. The best fit should be within the target market. Most models will not be optimized for some segments. In some cases, it may cause money to be left on the table or deals to be lost due to too high of a price. One way to test the fit is to list various sales scenarios and compare the effect on revenue caused by changes of the pricing model and the price points that feed into it. This exercise should be repeated at least twice a year. The assumptions used in the comparison should be validated and the model should be tested on the previous quarters' sales.

Another test for the fit of the pricing model and price point within a market segment is that a comparison with the competitors' pricing must be made. Take into account the pricing differential based upon positioning and functional differences. If the differences between your price and that of your competitors' cannot be justified, you will either have to change the model or the pricing factors in it.

The last test is the market. Make sure that your prospects and customers "get it." The pricing model should be simple to explain. If you need more than a couple of sentences to explain the pricing model, it is too complex.

Pricing Mistakes 1 - Complex Pricing Models

The pricing model has to be simple. It has to be straightforward for the sales force to calculate and easy for prospects to understand. Before finalizing a pricing model, make sure that a reporter can capture it in a single sentence.

> *"The fact that our customers probably didn't understand our licensing as well they might have earlier makes the transition and the perceived pain higher than it actually is ..."*
>
> *Microsoft's Steve Ballmer admitting that the shift in Microsoft's complex volume licensing practices in 1997, had sown some confusion.*

Prospects do not like complex pricing models and need to understand the model thoroughly. They need to be able play out "what If" scenarios when the sales rep is not around. They also need to be able to explain it to others when they are selling the solution inside their organization.

If your company's name is not IBM, Microsoft or another industry giant, be VERY careful before you create a new pricing model. And if you do try to invent one, make sure you have a fall back plan.

Pricing Mistakes 2 - Sharing Savings

Hubris is one explanation for the "sharing savings" pricing model. In the 90's NetManage developed a support tool and priced it as a percentage of the software revenues of the customer. Assuming that a company spent 10% of revenue on product support and that NetManage's product would save 30% of that, NetManage priced the product at 1% of the customer's revenue. No one was willing to take the pricing model seriously regardless of the final price point. Customers did not like the model and were not keen on having to have to open their books to a vendor. They felt this pricing model was like a tax. Sales reps were laughed out of multiple accounts. Even though customers are along for the ride, they don't want to feel that way. Revenue sharing is a legitimate proposal; sharing savings is not.

Pricing Mistakes 3 - Open-Ended Pricing

Prospects abhor software whose price is not capped. If a product or a service have variable elements to them, customers will be concerned about what the final cost will be. No one wants uncertainties in their budget so prospects will appreciate a cap to the variable costs. Imagine the first-time cell phone customer who receives a $200 usage bill instead of the expected $70. One exception to the rule seems to be online conferencing applications. Customers are more comfortable with their per usage model because of the conceptual similarity to their telephone service.

Summary

Understanding pricing is critical to Product Managers. Pricing goes beyond setting a numerical value for the product. It sets customers expectations, positions the product and impacts the way it's sold. Successful pricing is an ongoing effort and should be reexamined continuously as the product goes though its life cycle to ensure congruency between all elements.

I hope you enjoyed this article. Comments are appreciated.

Daniel Shefer

About Daniel Shefer

Daniel Shefer is Director of Business Development at SanDisk. Daniel has a decade of experience in the software industry, mostly in Product Management and Product Marketing. Prior to joining SanDisk, he was instrumental in product design with Interwise, establishing and managing the product management and the product marketing operations. Additionally, he has also managed technical sales and drove technology partnerships with 3rd party vendors.

Additional articles by the author:

- Non Recurring Engineering
- Pricing for Software Product Managers
- A Product Manager's Reading Anthology
- Ten Things Product Managers Need to Know about Sales
- Nine Things Product Managers Need to Know about Supporting Sales
- Disruptive Customer Requests
- Software OEM Agreements
- Managing Desktop vs. Enterprise Applications
- Software Product and Pricing Strategy
- Online Customer Forums
- Shortening the Sales Cycle
- The RFI as an Indicator of the Company's Sales Force and Messaging Effectiveness
- Webcasts for Lead Generation
- Creating Effective Competitive Sales Tools for Your Reps
- Demos, Pilots, and the Sales Cycle

Appendix A - Pricing Models

Here are some common pricing strategies.

Per Unit

Also known as the "per seat" or "named user" model. This is the way most people buy their material objects: home, car, software licenses, etc.

Concurrent Users

Cost is determined by the number of users that can access the service, application, etc. at the same time. The concurrent user model is common with server based applications such as databases.

Per Usage

In the per usage model, the cost is proportional to the extent of usage. The most common example is long distance calls and home utilities such as electricity and gas. Depending on the product, an initializing or installation fee might be tied in.

Per Unit of Infrastructure

The product, such as a database, is licensed per the number of CPUs on the machine that runs the application.

Revenue Share

The customer pays a percentage of the additional revenue achieved when utilizing the product. It is very difficult to get this model to work. It works best when the vendor manages the collection of the revenue. Some experts warn that they never really work as they are too hard to specify and require too much time to negotiate.

Per Assets

In this model, the vendor is paid based on the customer's assets. The concept behind it is that as the company grows, thanks to the product of course, the licensing fee they pay grows as well. This model exists in the financial word and is easy to implement because most financial companies' assets are made public.

Costs Savings

The customer pays a percentage of the savings achieved when utilizing the product. This can cause customer antagonism because the need to open books and share financial information will be seen as an intrusion.

Site Licenses

The customer pays a flat fee. Site Licenses are used mostly when usage is wide-spread in large companies. A site license supposedly saves customers the trouble of managing licenses when the number of users fluctuates but is mostly a purchasing ploy.

Complementary Pricing

Also called the "bait and hook" or the "razor and blades" model. One product is sold at a low price or even at a loss and a complementary product is sold at a profit to cover the loss associated with the former. Ink jet printers are a classic example. Vendors make their profits on the ink cartridges, not on the printers.

Appendix B – Constant Profitability Curves

The increase in sales volume needed to retain profitability when reducing prices or the decrease in sales volume that will preserve profitability when prices are increased can be calculated in the following equations:

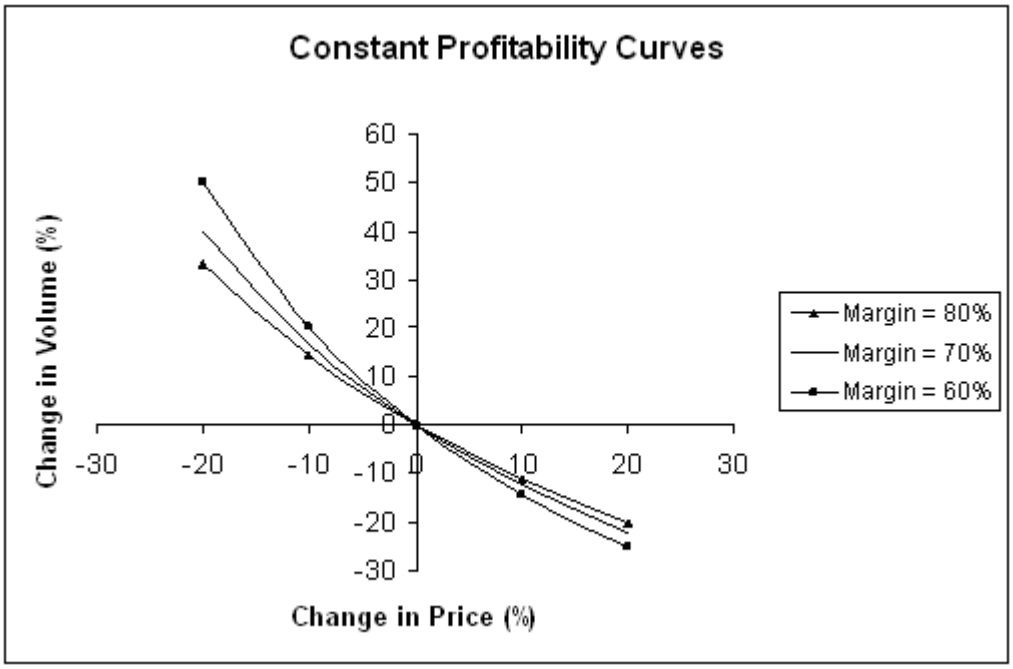
$$Volume\ Increase\ (\%) = \left(\frac{P_D}{P_{SD} - P_D} \right) * 100$$

Where P_D is percentage of price decrease and P_{SD} is the proportion of sales left over after deducting variable costs.

$$Volume\ Decrease\ (\%) = \left(\frac{P_I}{P_{SD} + P_I} \right) * 100$$

Where P_I is percentage of price increase and P_{SD} is the proportion of sales left over after deducting variable costs.

Below is a graph that details how sales volume must change to keep constant profitability when prices change.



Appendix C – Techniques for Calculating Volume Pricing

Assuming a pricing model that dictates different prices for each of two volumes of purchases, there are three ways to calculate the actual cost of a purchase – "Regular" and "Tiered" volume discounts and the simpler, "all units at nearest tier." The latter is a trivial case so this appendix will focus on the first two.

Regular pricing assumes that each unit's price between the two tiers lies on a continuum between the two prices. The Tiered approach's starting point is that the total price of the units is a linear line between the total price at each tier point. While these two approaches may sound similar, they produce slightly different results. In fact, Regular Volume Discounts will produce slightly higher revenue than the Tiered approach at any point between the tier boundaries. The equations defining the two approaches are:

$$Total\ Regular\ Price = Z\left(PX - \frac{PX - PY}{Y - X} * (Z - X) \right)$$

$$Total\ Tiered\ Price = X*PX + \frac{Y*PY - X*PX}{Y - X} * (Z - X)$$

Where

X – Is the #of units for lower interval.

Y – Is the #of units for upper interval.

Z – Is the quantity purchased (must be between X and Y).

PX – Is the unit price of the lower interval.

PY – Is the unit price of the upper interval

To clarify the theory, let's look at a simple example where the lower tier starts at 10 units at $750 a unit and the higher tier starts at 20 units at $500 a unit. The table describes the behavior of the total price for each of the discount schedules:

# of Units	Cost Per Unit, Regular Volume Discounts	Regular Volume Discounts	Tiered Volume Discounts	Cost Per Unit, Tiered Volume Discounts
10	$750	$7,500	$7,500	$750.0
11	$725	$7,975	$7,750	$704.5
12	$700	$8,400	$8,000	$666.7
13	$675	$8,775	$8,250	$634.6
14	$650	$9,100	$8,500	$607.1
15	$625	$9,375	$8,750	$583.3
16	$600	$9,600	$9,000	$562.5

17	$575	$9,775	$9,250	$544.1
18	$550	$9,900	$9,500	$527.8
19	$525	$9,975	$9,750	$513.2
20	$500	$10,000	$10,000	$500.0

As you can see, while the end points (in this case, 10 and 20 units) are straight forward, the two approaches produce slightly different results in the interim.

Appendix D – Variable Pricing

Some of the best-known examples of variable pricing models are eBay, Priceline, the airlines and the stock market. In these markets, the price is set dynamically with little restriction.

eBay is the case exemplar of the "ideal" marketplace. Geography is not an issue and prices are set by supply and demand. eBay might be one of the cheapest selling channels but this type of marketplace is only good for products that are sold "As Is" with easily defined features. Products that require complex service contracts, professional services or pre-sales are not good candidates for selling on eBay.

Priceline is similar in the bidding aspect but is fundamentally different in another. Technically speaking it is a reverse auction. It adds an uncertainty in the purchase such as the date for the airline tickets or the exact hotel as a trade off for lower prices. This uncertainty can be seen as a "limitation" of the offered product. In exchange for this "limitation" and the ability to sell last minute vacancies, vendors are willing to reduce prices.

The nature of these markets limits the type of products that can be sold on them. These pricing models do not fit all products such as perishables. For example a bakery that offers slightly stale bread from yesterday at a discount. Most people would not be interested in such an offer.

Airlines have made variable pricing into an art. By segmenting their market, they have created a complex, confusing model. They sell a basically identical product at different prices all depending on when you buy and who they think you are. The first parameter is the time of purchase. The price of ticket is significantly lower if you purchase it at least two weeks ahead of time. Airlines assume that anyone buying a ticket at the last moment or that is not staying over the weekend is a business person and therefore, they can change more. The reasoning here is that the cost will be covered by the employer so the customer is not as price sensitive as those who are paying out of their own pocket. The second parameter is the "Saturday night stay over."

Appendix E – Tips on Collecting Competitor Pricing Information

1. Buy your competitor's product.
2. Have a third party conduct a price survey and call your competitor's customers.

3. Get friendly with an existing user that is interested in buying a product in your segment.
4. Remember that for enterprise products, list prices are rarely the price paid at the end of the day.
5. Regularly interrogate the sales reps. Sales reps tend to report competitor's pricing on sales that they lost, not the ones they won.
6. Add a field for competitor's pricing into the sales automation tool report and encourage sales reps to fill it.
7. If you meet a competitor at a show, they will probably not volunteer their own pricing but feel free to ask them about a mutual competitor.

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