

## Chapter 2: Answers to the End-of Chapter Questions

### Exercises

1. A well-known local wine shop uses keystone pricing for its line of modular wine racks.
- (a) Given this pricing practice, use the cost information here to calculate the retail prices for the following items. Show your calculations:

12-bottle rack, natural finish	Per-item cost	\$22.50
12-bottle rack, mahogany finish	Per-item cost	\$26.25
24-bottle rack, natural finish	Per-item cost	\$36.00

$$P = \$22.50 + 1 \times \$22.50 = \$45.00$$

$$P = \$26.25 + 1 \times \$26.25 = \$52.50$$

$$P = \$36.00 + 1 \times \$36.00 = \$72.00$$

- (b) What is the markup percentage being used for these wine racks?

$$M = (\$22.50 / \$22.50) \times 100 = 100\%$$

- (c) If these wine racks are sold at the prices you calculated in Part (a), what would be the shop's percent gross margin for these items?

$$\%GM = (\$22.50 / \$45.00) = 50\%$$

\$ gross margins would be \$22.50, \$26.25, and \$36.00

2. You are the manager of a successful gift shop. After a meeting with her accountant, the owner of the shop has told you that the shop's cost of goods sold should be about 30 percent of total sales revenue and that the price of each of the items that the shop sells should be in line with this.

- (a) Based on the owner's instructions, give the price you would set for the following items. Show the formula(s) you used in your calculations:

Item A	Per-item cost:	\$26.00
Item B	Per-item cost:	\$9.25
Item C	Per-item cost:	\$103.60

$$P = C / [1 - (\%GM/100)]$$

$$\text{If costs are 30\%, then \%GM} = 1 - 30\% = 70\%$$

$$P = 26 / (1-.7) = \$86.67$$

$$P = 9.25 / (1-.7) = \$30.83$$

$$P = 103.6 / (1-.7) = \$345.33$$

$$\text{Or, } M = \%GM \times [100/(100-\%GM)]$$

$$M = 70\% \times (100/30) = 233\%$$

$$P = C + [(M/100) \times C]$$

$$P = 26 + (2.33 \times 26) = 26 + 60.58 = \$86.58$$

$$P = 9.25 + (2.33 \times 9.25) = 9.25 + 21.55 = \$30.80$$

$$P = 103.6 + (2.33 \times 103.6) = 103.6 + 241.39 = \$344.99$$

These prices differ from those obtained from the %GM formula only by round-off error.

- (b) Is the owner using cost-based, competition-based, or customer-based pricing? What are the pros and cons of the owner's pricing procedure?

Cost-based pricing (in particular, markup pricing)

Pros: Simple to understand and implement; easy way to keep in line

Cons: May result in a price that is so high that few buy or so low that most customers would have paid more

Not useful for maximizing total profits

3. The manager of a local convenience store is expanding his line of small toy items. To price these new items, the manager is looking at the prices being charged by competing retailers in his area. For the popular "Titan Joe Action Figure," he has observed the following prices:

Downtown department store:	\$14.00
Chain drug store:	\$11.99
Well-known local variety store	\$10.99
Large discount department store:	\$9.97
Discount toy store	\$9.55

If the manager is inclined to use parity pricing, what price should he set for the Titan Joe Action Figure? Explain your reasoning.

Parity pricing is to price at the same level as competitors.

But, *which* competitors? Answer should show understanding of these alternatives:

Prices: Those that are highest, lowest, or middle in the range?

Competitors:

Largest? (discount dept. store chain?)

Fastest growing? (discount toy store?)

Most prestigious? (downtown dept. store?)

Most similar to price-setting company? (chain drug store?)

4. A homeowner has asked a local real estate agent for advice on the price he should set for his house. The real estate agent notes that the only comparable house in the neighborhood that is currently for sale is asking \$350,000. Both houses are on a hill that overlooks a beautiful lake, but the owner's house is forty feet farther up the hill than the comparable house. The agent estimates that, in this area, customers will pay an additional \$10,000 for a house for each ten added feet of elevation associated with the house's location. The owner's house has an old, outdated kitchen, but the sellers of the comparable house have just spent \$24,000 to remodel their kitchen.

What is the selling price that the real estate agent should recommend?

VTC analysis:

reference value	\$350,000	value of comparable house
pos. diff. value	+ 40,000	hill: 4 x \$10,000
neg. diff. value	- 24,000	value of kitchen in comparable house
	<u>\$366,000</u>	

Real estate agent might recommend a selling price should be somewhat below the VTC, say, \$350,000.

5. Lincoln Manufacturing has just developed a more durable commercial carpeting. It has all the advantages of the currently available commercial carpeting and lasts twice as long. Lincoln's materials and labor costs for producing this new carpeting are \$14.50 per square yard. Buyers of commercial carpeting must have it installed by independent contractors whose installation charges for this new carpeting average \$10 per square yard.

The price of the currently available commercial carpeting averages \$12 per square yard. Independent contractors charge \$8 per square yard for installing the currently available commercial carpeting.

- (a) Use VTC analysis to calculate the VTC for commercial buyers of a square yard of Lincoln's new carpeting.

reference value	\$12	price of next closest substitute (sq yard of current carpet)
pos. diff. value	+ 12	price of sq yard of replacement carpet saved
pos. diff. value	+ 8	price of replacement installation saved
neg. diff. value	- 2	\$10 - \$8, more expensive installation
	<u>\$30</u>	

- (b) Recommend a price for a square yard of Lincoln's new carpeting, and justify your recommendation. Your justification should make use of your estimate of the VTC of Lincoln's new carpeting.

Price should be lower than \$30 (= VTC) – there should be some inducement to purchase

Price needs to be above \$14.50 (= variable costs) – each sale should make some contribution to covering fixed costs

There should be a plausible argument for where within this range the price should be.

### Review and Discussion Questions

1. What are the three possible starting points for the process of setting an initial price that are described in this chapter?

Three starting points for the process of setting an initial price are: cost of product, competitors' prices, and customer needs.

2. Suppose that you have a service business such as house painting. Describe how you would use cost-plus pricing in developing an estimate for a potential customer.

First of all, the company may calculate its cost to do the job. Then, it determines how much should be added to this cost by considering factors such as the number of such jobs it is likely to do in a year, its overhead costs, and its desired final profits.

3. If an item costs \$10 and you apply a 60 percent markup, what would be the item's price? If you used keystone pricing in this case, what then would be this item's price?

An item costs \$10 and you apply a 60 percent markup, the item's price would be:

$$P = C + [(M/100) \times C] = \$10 + [(60/100) \times \$10] = \$16$$

If using keystone pricing, the markup would be 100 percent, and the item's price would be:

$$P = \$10 + [(100/100) \times \$10] = \$20$$

4. If management's profit guidelines mandate gross margins of 25 percent, calculate the markup percentage that would be equivalent to this gross margin.

If management's profit guidelines mandate gross margins of 25%, the markup percentage that would be equivalent to this gross margin is:

$$M = \%GM \times [100/(100-\%GM)] = 25\% \times [100/(100-25)] = 33\%$$

5. If an item will be priced according to a 55 percent gross margin and the item costs \$20, use that gross margin percentage to directly calculate the item's price.

If an item will be priced according to a 55% gross margin and the item costs \$20, the item's price would be:

$$P = C / [1 - (\%GM/100)] = \$20 / [1 - (55/100)] = \$44.44$$

6. Describe how you would research industry norms on gross margins to inform your company's decisions regarding pricing-related profit goals.

A source of industry norms on gross margin is the publically available reports, such as the Form 10-K, that every company must file with the U.S. Securities and Exchange Commission (SEC).

7. Cost-based pricing is sometimes justified by arguing that it ensures that a company receives a good profit on the products that it sells. Describe a problem with this justification. What does this problem have to do with the main disadvantage of cost-based pricing?

Although a cost-based price might ensure good per-item profits, it may not ensure good total profits. For example, a markup set to yield a good profit on each item might result in a price so high that few items are sold. The total profits made from that item might then be quite disappointing. Alternatively, a markup set to yield a good profit on each item could result in a price that is substantially lower than customers would be willing to pay. The result of this could be a level of total profits far lower than could otherwise have been made.

This is the main disadvantage of cost-based pricing – it is not particularly useful in efforts to maximize total profits.

8. Given that there is a serious disadvantage to cost-based pricing, how would you account for its widespread use in retailing and other businesses?

One reason for the widespread use of cost-based pricing is its simplicity. Such simplicity is particularly important in situations where there are large numbers of prices to determine on a continuing basis. This is often the case among resellers, which at least partially explains why cost-based pricing is particularly widespread in wholesaling and retailing.

A second reason for the widespread use of cost-based pricing has to do with the common practice of using standard markup or margin levels in an industry or for a particular type of product. Because per-item costs are often similar among competitors, applying a standard markup or margin reduces the need to carry out research on competitors' prices. Use of such cost-based standards can serve as an economical means of keeping one's prices from being substantially out of line with those of competitors.

9. What is parity pricing? How does it differ from other forms of competition-based pricing?

Parity pricing is a pricing method in which a seller's intent is to match the levels of competitors' prices. Other forms of competition-based pricing may start with the prices charged by competitors, and then choose to set prices lower or higher than these competitive prices.

10. Describe some ways that a seller using competition-based pricing could deal with the presence in the marketplace of a variety of prices for an item.

A competition-based method of setting a product's initial price could deal with this complexity by focusing on only the highest marketplace prices, on only the lowest, or on only prices in the middle of the competitive price range. Alternatively, attention could be focused on the prices of one particular competitor, perhaps the one that is largest, the one showing the fastest growth, the one that is most prestigious, or the one considered most similar to the company that is setting an initial price.

11. What might make it difficult to determine the prices of one's competitors? When such difficulties occur, what could be done to surmount them?

In business markets, a further difficulty of competition-based pricing involves determining competitors' actual prices. In many business markets, prices are not publicly posted, either because they are determined by a bidding process or because they are determined by private negotiations between the buyer and seller. Sometimes, the publicly available posted prices are not the prices at which products are actually sold, because of subsequent private discounts or negotiations.

In such situations, a seller may be able to draw on reports from salespeople concerning what customers have told them about the prices of their competitors. In most cases, useful estimates of competitors' prices would require supplementing such information from customers with information about competitors' likely costs, strategies, profit levels, and other elements of "competitive intelligence."

12. Describe one advantage and one disadvantage that competition-based pricing has in common with cost-based pricing.

Competition-based pricing shares with cost-based pricing the advantages of being intuitive and relatively easy to carry out. However, it also shares with cost-based pricing the disadvantage of producing prices that may not be helpful to efforts toward maximizing total profits.

13. How is customer-based pricing related to the role of price in the commercial exchange versus the role of the other three elements of the marketing mix?

Starting the initial price-setting process by considering the customer's needs makes possible a rational basis for price setting. The role of price in the commercial exchange is to capture the value created by the other three elements of the marketing mix. Because this value consists of the satisfactions of customer wants and needs that are provided by the product, careful consideration of each of the ways a product satisfies, fails to satisfy, or could be made to satisfy these customer wants and needs provides essential pricing guidance.

14. Describe the concept of a product's value to the customer. Why is the monetary estimation of this value important for price setting?

A product's value to the customer (VTC) is the value created by the product, distribution, and promotion elements of the marketing mix. A key technique of customer-based pricing is to be able to arrive at a numerical estimate of this value. Such consideration places at the starting point of the initial price-setting process a measure of the value that the product's price could potentially capture.

15. Describe the concept of a product's reference value. How would you calculate the reference value for a consumer product whose package size is different than the package sizes of all of its competing products?

A product's reference value is the price of the product that the customer perceives as the next closest substitute for the product. If a consumer product whose package size comes in a 10-ounce box and the next closest substitute comes in a 20-ounce box, then the product's reference value would be equal to half of the price of a box of the substitute product.

16. Consider a familiar product, such as Apple's iPhone. What would you consider to be its next closest substitute? Describe two factors that would differentiate the iPhone from its next closest substitute.

The next closest substitute of Apple's iPhone could be the Motorola Droid. The first factor that would differentiate the iPhone from the Droid is that the iPhone has more user-friendly interface than the Droid. A second factor would be that Apple has a better brand reputation than Motorola.

17. What is the difference between a positive differentiating factor and a negative one? Is it possible for an item to simultaneously have both positive and negative differentiating factors?

If the product is superior to the next closest substitute on a factor, then the value of this difference to the customer is a positive differentiation value. If the product is inferior to the next closest substitute on a factor, then the value of this difference to the customer is a negative differentiation value. It is possible for an item to simultaneously have both positive and negative differentiating factors.

18. Which would be more prudent: pricing an item above its VTC, exactly at its VTC, or below its VTC? Explain your reasoning.

It is a good idea to set a product's price at a level below its VTC. Assuming that the product's VTC is assessed accurately, then customers would not buy it at a price higher than that amount. At a price equal to the product's VTC, the customer would be in a situation where there is no net benefit for purchasing the product. The costs and benefits would be totally balanced. To avoid having a large number of potential customers pass up the product, it is generally wise to tip that balance by setting the price below the product's VTC.

19. If a salesperson tells a manufacturer that the machine the salesperson is selling is better than competing machines because it will last longer, what approach should be used to estimate the value of this differentiating factor?

To estimate the value of the differentiating factor of a machine lasting longer, it is likely that it would be practical to identify the monetary savings that would result from this greater durability. A benefit of using this approach is that it would probably be easier than marketing research to estimate how customers weigh money against their preferences for greater durability.

20. If an item is particularly valuable to a customer, using customer-based pricing might suggest a price that is higher than the one that would be indicated by use of a standard markup. Describe a situation where the use of customer-based pricing would suggest a price that is lower than the one that would be indicated by use of a standard markup.

A retailer might use a standard markup of 100 percent on the brands of clock radios that he carries. Although the brands are generally comparable, customers find that one of these brands has controls that are substantially less convenient. This creates a lower VTC for that brand. If the retailer's costs for that brand are similar to his costs for the other brands, then the lower retail price necessitated by the lower VTC for that brand would be a price lower than the one indicated by the use of the product category's standard markup.

21. Explain how an openness to customer-based pricing helped contribute to the outstanding success of the Ford Mustang.

The consideration of customer needs told Ford that customers in the large middle-income market did not value all of the aspects of a sports car enough for them to pay what it would cost Ford to provide these aspects. By considering these price-related customer needs early in the product development process, the Ford designers were able to look for, and include, the aspects that customers most wanted (e.g., styling) and to cut costs on the other aspects (e.g., engine, transmission). Starting the pricing process with the consideration of customer needs rather than product costs helped lead the company to start the pricing process before any cost commitments were made. This made it possible to substantially reduce those costs and achieve a highly profitable product.

22. Describe a situation where different market segments would have different VTCs for the same product.

If the estimated VTC of Station's tune-up for those town residents who commuted to the city by train was \$110, what would be the VTC for those residents who did not take the train to work? For those residents, there would be no station-location differentiating factor, so their estimated VTC would become \$90 (plus \$15 for the added reliability and minus \$5 for the wait). Further, within those town residents who do not take the train, there may be groups such as parents with young children or seniors who find the prospect of breaking down in their car particularly aversive and thus place greater value on the increased reliability of Station Auto Service's repair work. For these groups, the VTC of Station's tune-up might be somewhere between \$90 and \$110.

23. If a company uses customer-based pricing, does that mean that costs and the prices of competing products are not taken into account?

No. When setting a price for a product that does not already have a price, all three types of information – costs, competition, and customer needs – must be taken into account. The distinction made in this chapter concerns the type of information that the price setter should attend to *first*.

24. What is the most likely reason that customer-based pricing is not more often used? What do you think of this reason?

A major reason that customer-based pricing is not more often used is that it requires research on customer needs rather than only an estimate of one's incurred costs or the prices of competing products.

Although such investigation could involve expensive market research studies, it is also possible to gain some preliminary ideas of how one's product creates value, or could create value, inexpensively, say, by informal conversations with consumers and/or observations of the marketplace. Indeed, as advances in information technology decrease the costs of collecting information about customer behavior, the use of customer needs as the starting point in the pricing process becomes an increasingly practical approach.