Bhimani et al
Chapter Twelve: Pricing, Target Costing

Suggested solutions to some of the questions

12.1 The three major influences on pricing decisions are:

1 Customers
2 Competitors
3 Costs

12.2 Two examples of pricing decisions with a short-run focus are:

1 Pricing for a one-time-only special order with no long-term implications.
2 Adjusting product mix and volume in a competitive market.

12.3 Activity-based costing (ABC) helps managers in pricing decisions in two ways.

1 It gives managers more accurate product-cost information for making pricing decisions.
2 It helps managers to manage costs during value engineering by identifying the cost impact of eliminating, reducing or changing various activities.

12.4 A target cost per unit is the estimated long-run cost per unit of a product (or service) that, when sold at the target price, enables the company to achieve the targeted operating income per unit.

12.5 A **value-added (VA) cost** is a cost that customers perceive as adding value, or utility, to a product or service. Examples are costs of materials, direct labour, tools and machinery. Examples of **non-value-added (NVA) costs** are costs of reworking, scrap, expediting and breakdown maintenance.

12.6 No. It is important to distinguish between when costs are locked in and when costs are incurred, because it is difficult to alter or reduce costs that have already been locked in.

12.7 Cost-plus pricing methods vary depending on the bases used to calculate prices.
Examples are (a) variable manufacturing costs; (b) manufacturing function costs; (c) variable product costs and (d) full product costs.

12.8 Two examples where the difference in the incremental or outlay costs of two products or services is much smaller than the differences in their prices are as follows:

1 The difference in prices charged for a telephone call, hotel room or for hiring a car during busy versus slack periods is often much greater than the difference in costs to provide these services.
2 The difference in incremental or outlay costs for an aircraft seat sold to a passenger travelling on business or a passenger travelling for pleasure is roughly the same.

However, airline companies routinely charge business travellers – those who are likely to start and complete their travel during the same week excluding the weekend – a much higher price than pleasure travellers who generally stay at their destinations over at least one weekend.

12.9 Customer-profitability analysis highlights to managers how individual customers differentially contribute to total profitability. It helps managers to see whether customers who contribute sizably to total profitability are receiving a comparable level of attention from the organisation.

12.10 No. A customer-profitability profile highlights differences in the current period's profitability across customers. Dropping customers should be the last resort. An unprofitable customer in one period may be highly profitable in subsequent future periods. Moreover, costs assigned to individual customers need not be

purely variable with respect to short-run elimination of sales to those customers. Thus, when customers are dropped, costs assigned to those customers may not disappear in the short run.

12.11 Relevant-cost approach to short-run pricing decisions.

1 Analysis of special order:

Sales, 3,000 units × €80		€240,000
Variable costs:		
Direct materials, 3,000 units × €35	€105,000	
Direct manufacturing labour, 3,000 units × €10	30,000	
Variable manufacturing overhead, 3,000 units × €5	15,000	
Other variable costs, 3,000 units × €5	15,000	
Sales commission	6,000	
Total variable costs		171,000
Contribution margin		€69,000

Note that the variable costs, except for commissions, are affected by production volume, not sales euros.
If the special order is accepted, operating income would be €1,000,000 + €69,000 = €1,069,000.

2 Whether García-Salve is making a correct decision depends on many factors. He is incorrect if the capacity would otherwise be idle and if his objective is to increase operating income in the short run. If the offer is rejected, Alexon, in effect, is willing to invest €69,000 in immediate gains forgone (an opportunity cost) to preserve the long-run selling-price structure. García-Salve is correct if he thinks future competition or future price concessions to customers will hurt Alexon's operating income by more than €69,000.
There is also the possibility that Xuclà Mecàniques Fluvià could become a longterm customer. In this case, is a price that covers only short-run variable costs adequate? Would Zamora be willing to accept a €6,000 sales commission (as distinguished from her regular €36,000 = 15% × €240,000) for every Xuclà Mecàniques Fluvià order of this size if Xuclà Mecàniques Fluvià becomes a longterm customer?

12.12 Target prices, target costs, activity-based costing.

1
Pagnol-Carrelages's operating income in 2007 is as follows:

	Total for 250,000 tiles (1)	**Per unit (2) = (1) ÷ 250,000**
Revenues (€4 × 250,000)	€1,000,000	€4.00
Purchase cost of tiles (€3 × 250,000)	750,000	3.00
Ordering costs (€50 × 500)	25,000	0.10
Receiving and storage (€30 × 4,000)	120,000	0.48
Shipping (€40 × 1,500)	60,000	0.24
Fixed cost	40,000	0.16
Total costs	955,000	3.82
Operating income	€45,000	€0.02

2
Price to retailers in 2008 is 95% of 2007's price = 0.95 × €4 = €3.80; cost per tile in 2005 is 96% of 2004's cost = 0.96 × €3 = €2.88.

Pagnol-Carrelages's operating income in 2008 is as follows:

	Total for 250,000 tiles (1)	**Per unit (2) = (1) ÷ 250,000**
Revenues (€3.80 × 250,000)	€950,000	€3.80
Purchase cost of tiles (€2.88 × 250,000)	720,000	2.88
Ordering costs (€50 × 500)	25,000	0.10
Receiving and storage (€30 × 4,000)	120,000	0.48
Shipping (€40 × 1,500)	60,000	0.24
Total costs	925,000	3.70
Operating income	€25,000	€0.10

3 Pagnol-Carrelages's operating income in 2008 if it makes changes in ordering and material handling will be as follows:

	Total for 250,000 tiles (1)	**Per unit (2) = (1) ÷ 250,000**
Revenues (€3.80 × 250,000)	€950,000	€3.80
Purchase cost of tiles (€2.88 × 250,000)	720,000	2.88
Ordering costs (€25 × 200)	5,000	0.02
Receiving and storage (€28 × 3,125)	87,500	0.35
Shipping (€40 × 1,500)	60,000	0.24
Total costs	872,500	3.49
Operating income	€77,500	€0.31

Through better cost management, Pagnol-Carrelages will be able to achieve its target operating income of €0.30 per tile, despite the fact that its revenue per tile has decreased by €0.20 (€4.00 − €3.80) while its cost per tile has decreased by only €0.12 (€3.00 − €2.88).

Question 12.13

1

HospedeJras de Portugal Lda's full cost per hour of supplying contract labour is:

Variable costs	€12
Fixed costs (€240 000 / 80000 hours)	3
Full cost per hour	€15

Price per hour at full cost plus 20% = €15 x 1.20 = €18 per hour.

2

Contribution margins for different prices and demand realisations are as follows:

Price per Hour (1)	Variable cost per hour (2)	Contribution margin per hour (3) = (1) - (2)	Demand in hours (4)	Total contributiou (5) = (3) x (4)

€16	€12	€4	120000	€480000
17	12	5	100000	500000
18	12	6	80000	480000
19	12	7	70000	490000
20	12	8	60000	480000

Fixed costs will remain the same regardless of the demand realisatious. Fixed costs are therefore irrelevaut since they do not differ among the alternatives. The table above indicates that Hospedeiras de Portugal can maximise contribution margin and hence operating profit by charging a price of €17 per hour.

3

The cost-plus approach to pricing in requirement 1 does not explicitly consider the effect of prices on demand. The approach in requirement 2 models the interaction between price and demand and determines the optimal level of profitability using concepts of relevant costs. The two different approaches lead to two different prices in requirements 1 and 2. As the chapter describes, pricing decisions should consider both demand or market considerations and supply or cost factors. The approach in requirement 2 is the more balanced approach. In most cases, of course, managers use the cost-plus method of requirement 1 as only a starting point. They then modify the costplus price on the basis of market considerations - anticipated customer reaction to a1ternative price levels and the prices charged by competitors for similar products.

Question 12.14

1

Sales (1000 crates at DKr 100 per crate)		DKr 100000
Variable costs:		
Manufacturing	DKr 40000	
Marketing	14000	
Total variable costs		54000
Contribution margin		46000
Fixed costs		
Manufacturing	DKr 20000	
Marketing	16000	
Total fixed costs		36000
Operating profit		DKr 10000

Normal mark-up percentage: DKr 46000 / DKr 54000 = 85.19% of total variable costs.

2

Only the manufacturing-cost categOlY is relevant to considering this special order; no additional marketing costs will be incurred. The relevant manufacturing costs for the 200~crate special order are:

Variable manufacturing cost per unit

DKr 40 x 200 crates DKr	8000
Special packaging	2000
DKr	10000

Any price above DKr 50 per crate (DKr 10000 + 200) will make a positive contribution to operating profit. The reasoning based on a comparison of DKr 55 per crate-price with the DKr 60 per-crate absorption cost ignores monthly cost-volume-profit relationships. The DKr 60 per-crate absorption cost includes a DKr 20 per-crate cost component that is irrelevant to the special order. The relevant range for the fixed

manufacturing costs is from 500 to 1500 crates per month; the special order will increase production fi'om 1000 to 1200 crates per month. Furthermore, the special order requires no incremental marketing costs.

3

If the new customer is likely to remain in business, 0sterbro should consider whether a strictly short-run focus is appropriate. For example, what is the likelihood of demand from other customers increasing over time? If 0sterbro accepts the 200-crate special offer for more than one month, it may preclude accepting other customers at prices exceeding DKr 55 per crate. Moreover, the existing customers may learn about 0sterbro's willingness to set a price based on variable cost plus a small contribution margin. The longer the timeframe over which 0sterbro keeps seIling 200 crates of canned peaches at DKr 55 a crate, the more likely that the existing customers will approach 0sterbro for their own special price reductions.

12.15 Product costs, activity-based costing systems.

This problem assumes knowledge of activity-based costing systems as described in Chapter 11. The problem illustrates how both product designers and manufacturing personnel can play key roles in a company manufacturing competitively priced products. Solution Exhibit 12.15 presents an overview of the product costing system at Combrai Informatique. The following table presents the manufacturing cost per unit for different cost categories for P-41 and P-63.

Cost categories	**P-41**	**P-63**
Direct manufacturing product costs		
Direct materials	€407.50	€292.10
Indirect manufacturing product costs		
Materials handling		
(85 × €1.20; 46 × €1.20)	102.00	55.20
Assembly management		
(3.2 × €40; 1.9 × €40)	128.00	76.00
Machine insertion of parts		
(49 × €0.70; 31 × €0.70)	34.30	21.70
Manual insertion of parts		
(36 × €2.10; 15 × €2.10)	75.60	31.50
Quality testing		
(1.4 × €25; 1.1 × €25)	35.00	27.50
Total indirect manufacturing product costs	€374.90	€211.90
Total manufacturing product costs	€782.40	€504.00

Exhibit 12.15 on page 171