



Pricing, target costing and customer profitability analysis

Introduction



- n** Pricing decisions are management decisions about what to charge for the products and services that companies deliver.
- n** To maximise operating profit, companies produce and sell units as long as the revenue from an additional unit exceeds the cost of producing it.

Learning objectives



- 1 Discuss the three major influences on pricing decisions
- 2 Distinguish between short-run and long-run pricing decisions
- 3 Describe the target-costing approach to pricing
- 4 Distinguish between cost incurrence and locked-in costs

Learning objectives (Continued)



- 5 Describe the cost-plus approach to pricing
- 6 Explain how life-cycle product budgeting and costing assist in pricing decisions
- 7 Discuss why revenues can differ across customers purchasing the same product

Learning objectives (Continued)



- 8 Apply the concept of cost hierarchy to customer costing
- 9 Show how customer profitability reports can be prepared to highlight differences across customers in their profitability

Learning objective 1



**Discuss the three major influences
on pricing decisions**

Major influences on pricing decisions



- 1 *Customers*
- 2 *Competitors*
- 3 *Costs*

n The price of a product or service is the outcome of the interaction between the demand for the product or service and its supply.

Major influences on pricing decisions (Continued)



- 1 *Customers* influence prices through their effect on demand.
- n** Companies must always examine pricing decisions through the eyes of their customers.
 - n** Too high a price may cause customers to reject a company's product.

Major influences on pricing decisions (Continued)

2 *Competitors* influence prices through their actions.

- Alternative or substitute products of a competitor may affect demand and force a business to lower its prices.

- Fluctuations in the exchange rates of different countries' currencies also affect pricing decisions.

Major influences on pricing decisions (Continued)



3 *Costs* influence prices because they affect supply.

n The lower the cost relative to the price, the greater the quantity of product the company is willing to supply.

Learning objective 2



**Distinguish between short-run
and long-run pricing decisions**

Time horizon of pricing decisions

- n** Most pricing decisions are either short run or long run.
- n** Short-run decisions typically have a time horizon of less than a year.
 - Pricing a one-time-only special order.
 - Adjusting product mix and output volume.

Time horizon of pricing decisions (Continued)



- n** Long-run decisions involve a time horizon of a year or longer.
- Pricing a product in a major market where price setting has considerable leeway.

Time horizon of pricing decisions (Continued)

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- n** Two key differences when pricing for the long run relative to the short run:
- 1** Costs that are often irrelevant for short-run pricing decisions (fixed costs) are often relevant in the long run.
 - 2** Profit margins in long-run pricing decisions are often set to earn a reasonable return on investment.

Costing and pricing for the short run

- n** The Corleone Corporation operates a plant with a monthly capacity of 500,000 cases of tomato sauce.
- n** Corleone is presently producing 300,000 cases per month.
- n** Supermarket Ltd has asked Corleone and two other companies to bid on supplying 150,000 cases each month for the next four months.

Costing and pricing for the short run (Continued)



	<u>Cost per case</u>
Variable manufacturing	€38
Variable marketing and distribution	13
Fixed manufacturing	14
Fixed marketing and distribution	<u>15</u>
Total	€80

Costing and pricing for the short run (Continued)

- n** If Corleone makes the extra 150,000 cases, the existing total fixed manufacturing overhead (€4,200,000 per month) would continue, plus an additional €165,000 of fixed overhead will be incurred per month.
- n** Total fixed marketing and distribution costs will not change.
- n** What price should Corleone bid?

Costing and pricing for the short run (Continued)

	<u>Relevant costs</u>
Variable manufacturing	€38.00
Fixed manufacturing	<u>1.10</u>
Total	€39.10

$$€165,000 \div 150,000 = €1.10$$

n Any bid above €39.10 will improve Corleone's profitability in the short run.

Costing and pricing for the short run (Continued)

- n** Suppose that Corleone believes that Supermarket will sell the tomato sauce in Corleone's current markets, but at a lower price than Corleone.
- n** Relevant costs of the bidding decision should include revenues lost on sales to existing customers.

Costing and pricing for the long run



- Taquisha Computer Corporation manufactures two brands of computers: Simple Computer (SC) and Complex Computer (CC).
- Taquisha uses a long-run time horizon to price Complex Computer (CC).

Costing and pricing for the long run (Continued)

- n** Direct materials costs vary with the number of units produced.
- n** Direct manufacturing labour costs vary with direct manufacturing labour hours.
- n** Ordering and receiving, testing and inspection and rework costs vary with their chosen cost drivers.

Costing and pricing for the long run (Continued)

Manufacturing activity	Cost driver	Cost per unit of cost driver
Ordering and receiving	Number of orders	€78 per order
Testing and inspection	Testing hours	€2 per hour
Rework	Rework hours	€38 per hour

Costing and pricing for the long run (Continued)

n Taquisha uses the following information to calculate the cost of manufacturing 100,000 units of Complex Computer.

	<u>Cost per unit</u>
Direct materials	€450.00
Direct labour:	
3.50 hours @ €19 per hour	<u>66.50</u>
Total	€516.50

Costing and pricing for the long run (Continued)

- n** Number of orders placed:
17,000
- n** Number of testing hours: 3,000,000
- n** Number of units reworked: 8,000
- n** The direct fixed costs of machines used exclusively for the manufacture of Complex Computer total €7,000,000.
- n** What is the cost of producing 100,000 units of Complex Computer?

Costing and pricing for the long run (Continued)

n Direct material and labour

€51,650,000	Direct fixed costs
7,000,000	Ordering ($17,000 \times €78$)
1,326,000	Testing ($3,000,000 \times €2$)
6,000,000	Rework ($8,000 \times €38$)
<u>304,000</u>	Total
€66,280,000	

n $€66,280,000 \div 100,000 \text{ units} = €662.80/\text{unit}$

Alternative long-run pricing approaches



- Market-based
- Cost-based (also called cost-plus)

Learning objective 3



**Describe the target-costing
approach to pricing**

Target price



- It is the estimated price for a product (or service) that potential customers will be willing to pay.
- n** The target price, calculated using customer and competitors' inputs, forms the basis for calculating target costs.

Target costs



$$\begin{aligned} & \text{Target sales price per unit} \\ & - \text{Target operating profit per unit} \\ & = \text{Target cost per unit} \end{aligned}$$

Implementing target pricing and target costing

n Steps in developing target prices and target costs:

- 1 Develop a product that satisfies the needs of potential customers
- 2 Choose a target price
- 3 Derive a target cost per unit
- 4 Perform value engineering to achieve target costs.

Implementing target pricing and target costing (Continued)

- n** Taquisha's management wants a 15% target operating profit on sales revenues of CC.
- n** Target sales revenue is €750 per unit.
- n** What is the target cost per unit?
$$€750 \times 0.15 = €112.50$$
$$€750 - €112.50 = €637.50$$
- n** Current full cost per unit of CC is €662.80.

Implementing target pricing and target costing (Continued)



n *Value engineering* is a systematic evaluation of all aspects of the value-chain business function, with the objective of reducing costs while satisfying customers' needs.

Value-added costs



n A value-added cost is a cost that customers perceive as adding value, or utility, to a product or service:

- Adequate memory
- Pre-loaded software
- Reliability
- Easy-to-use keyboards.

Non-value-added costs



nA non-value-added cost is a cost that customers do not perceive as adding value, or utility, to a product or service.

- Cost of expediting
- Rework
- Repair.

Learning objective 4



**Distinguish between cost
incurrence and locked-in costs**

Cost incurrence



- Cost incurrence arises when a resource is sacrificed or forgone to meet a specific objective
- Research and development
- Design
- Manufacturing
- Marketing
- Distribution
- Customer support

Locked-in costs



- Locked-in costs are those costs that have not yet been incurred but which, based on decisions that have already been made, will be incurred in the future (designed-in costs).
- n** It is difficult to alter or reduce costs that are already locked in.

Cost incurrence and locked-in costs

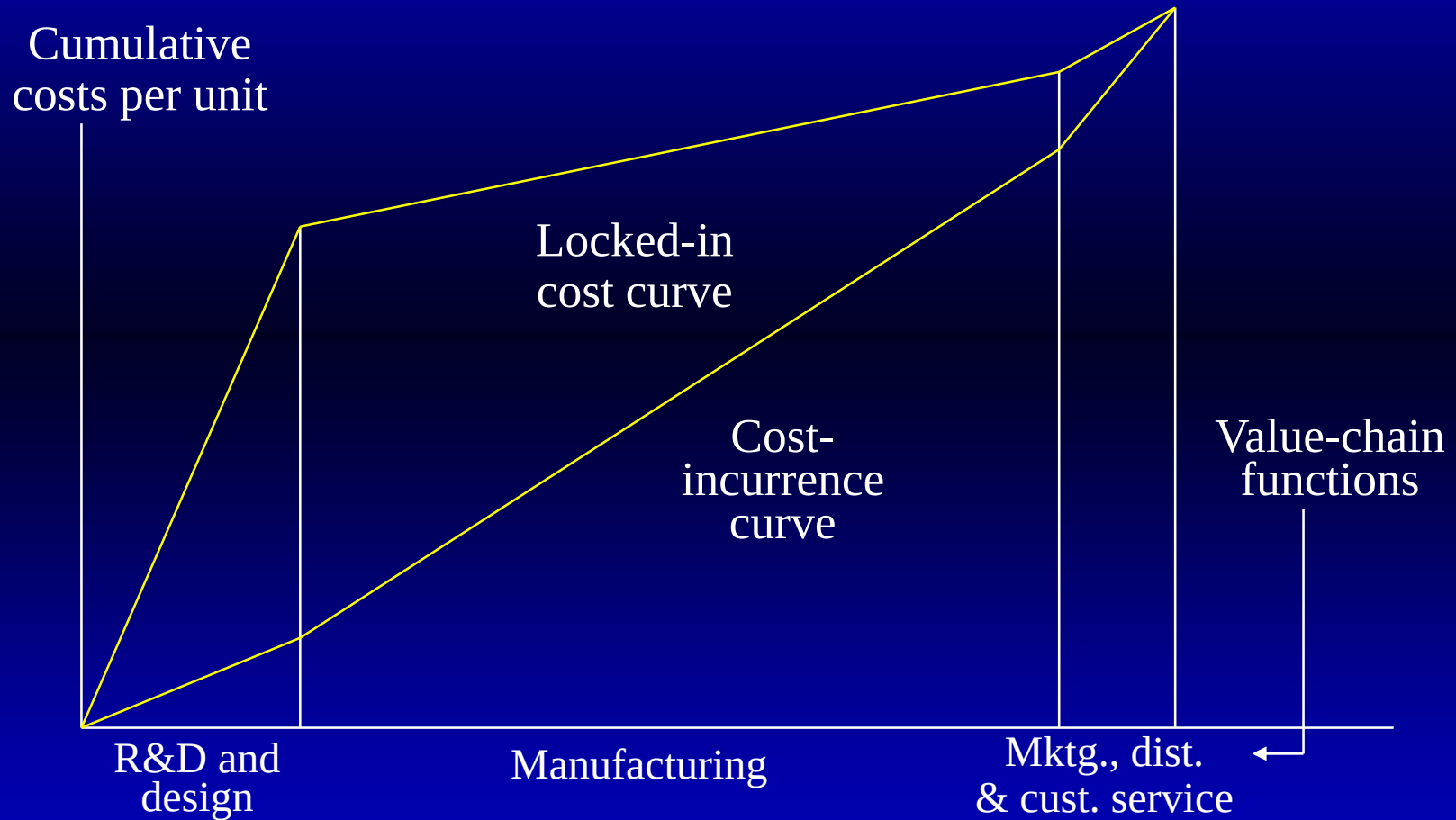


Exhibit 12.4 Pattern of cost incurrence and locked-in costs for Provalue

Cost incurrence and locked-in costs (Continued)

- n** There is a wide divergence between the time when costs are locked in and the time when those costs are incurred.
- n** At the end of the design stage, direct materials, direct manufacturing labour and many manufacturing, marketing, distribution and customer service costs are all locked in.

Cost incurrence and locked-in costs (Continued)



- n** When a sizable fraction of the costs are locked-in at the design stage, the focus of value engineering is on making innovations and modifying designs at the product design stage.

Cost incurrence and locked-in costs (Continued)



- n** In some industries, such as legal and consulting, costs are locked-in and incurred at about the same time.
- n** In these industries, the key to lowering costs is improved operational efficiency and productivity rather than better design.

Learning objective 5



**Describe the cost-plus
approach to pricing**

Cost-plus pricing

- The general formula for setting a cost-based price is to add a mark-up component to the cost base.

Cost base	€X
Mark-up component	<u>Y</u>
Prospective selling price	<u>€X + Y</u>

Cost-plus pricing (Continued)

- n** Assume that Taquisha's engineers have redesigned CC into CCI at a new cost of €637.50.
- n** Taquisha desires a 20% mark-up on the full unit cost.
- n** What is the prospective selling price?

Cost-plus pricing (Continued)



n Cost base	€637.50
Mark-up component (€637.50 × 0.20)	<u>127.50</u>
Prospective selling price	€765.00

n How is the 20% determined?

n Choose a mark-up to earn a target rate of return on investment.

Cost-plus pricing (Continued)

n Assume that the capital investment needed for CCI is €75 million, and Taquisha's (pre-tax) target rate of return on investment is 17%.

n What is the target annual operating profit that Taquisha needs to earn from CCI?

$$€75,000,000 \times 0.17 = €12,750,000$$

Cost-plus pricing (Continued)



n What is the target operating profit per unit?

$$€12,750,000 \div 100,000 \text{ units} = €127.50/\text{unit}$$

Cost-plus pricing (Continued)

- n** The 17% target rate of return on investment expresses the company's expected annual operating profit as a percentage of investment.
- n** The 20% mark-up expresses operating profit per unit as a percentage of the full product cost per unit.

Advantages of using full costs



- Full recovery of all costs of the product
- Price stability
- Simplicity

Alternative cost-plus methods



- Variable manufacturing costs
- Variable costs of the product
- Manufacturing function costs

n A company will choose a cost base that it regards as reliable and a mark-up percentage based on its experience in pricing products to recover its costs and earn a desired return on investment.

Learning objective 6



**Explain how life-cycle product
budgeting and costing assist in
pricing decisions**

Life-cycle budgeting



- n** The product life cycle spans the time from original research and development, through sales, to when customer support is no longer offered for that product.
- n** A life cycle budget estimates revenues and costs of a product over its entire life.

Life-cycle budgeting (Continued)



n Features that make life-cycle budgeting important:

- Non-production costs
- Development period for R&D and design
- Other predicted costs.

Non-production costs



- They are less visible on a product-by-product basis.
- n** When non-production costs are significant, identifying these costs by product is essential for target pricing, target costing, value engineering and cost management.

Development period



- n** When a high percentage of total life-cycle costs are incurred before any production begins and before any revenues are received, it is crucial for the company to have as accurate a set of revenue and cost predictions for the product as possible.

Predicted costs



- n** Many of the production, marketing, distribution and customer service costs are locked in the R&D and design stage.
- n** Life cycle budgeting facilitates value engineering at the design stage before costs are locked in.

Customer profitability



n The key priorities facing an organisation:

- » Customer profitability
- » Cost management
- » Quality
- » Growth

Customer profitability (Continued)



n Assessing customer value:

- Short- and long-run customer profitability
- Likelihood of customer retention
- Potential for customer growth
- Increases in overall demand from having well-known customers
- Ability to learn from customers.

Learning objective 7



**Discuss why revenues can differ
across customers purchasing
the same product**

Customer revenues



- n** Customer revenues are greatly affected by **price discounting**.
- n** This is where sales staff reduce the selling price in order to encourage an increase in purchases by customers.

Customer revenues (Continued)



There are two reporting options:

1. Reporting income and the discount separately.
 2. Net the income and discount to give the actual price sold and report that figure.
- n** The advantage of method 1 is that it enables the more detailed analysis of discounts as a way of understanding why customers may not be as profitable as first envisaged.

Learning objective 8



Apply the concept of cost hierarchy to customer costing

Customer costing



- n** There are five key ways in which the cost hierarchy can be used for customer costing:
- 1 Customer output-unit-level costs – resources sacrificed on activities performed to sell each unit to a customer.
 - 2 Customer batch-level costs – resources sacrificed on activities that relate to a group of units sold to a customer.

Customer costing (Continued)



- 3 Customer-sustaining costs – resources sacrificed on activities undertaken to support individual customers, regardless of the number of units sold.
- 4 Distribution-channel costs – resources sacrificed on activities that are related to a particular distribution channel rather than to each unit of production.
- 5 Corporate-sustaining costs – resources sacrificed on activities that cannot be traced to individual customers/distribution channel.

Learning objective 9



Show how customer profitability reports can be prepared to highlight differences across customers in their profitability

Customer value



- n** There are numerous ways in which customers can be ranked and their value be assessed:
- 1 Ranking customers on how much they contribute to revenue/profit – both in the short run and the long run.
 - 2 Likelihood of customer retention.

Customer value (Continued)

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- 3 Potential for customer growth.
 - 4 Having well-known customers (e.g. The Royal Warrant on certain goods).
 - 5 Ability to learn from customers through feedback.
 - n** Profitability reports can often reveal that a small percentage of customers contribute to a large percentage of profits and help to focus management on retaining high-value customers.