

CHAPTER 6 - Competitive strategies

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CHAPTER 6 - Competitive strategies

6.1 Introduction

There are essentially three elements for a successful competitive strategy: unique, sustainable, and relevant. Unique means that nobody else was doing it and, coupled with sustainability, means that it is not easily replicated. Sustainability is a challenging element in a competitive market. Relevant means that it is relevant to the customer, which maintains the customer focus required for success in today's business environment.

This chapter reviews the generic strategies identified by Porter (1985) of cost leadership and differentiation, although it should be noted that variations or combinations of the basic strategies are possible. Two accounting techniques are discussed that can aid the sustainability of the strategy — the techniques of activity-based costing, including time-driven activity-based costing, and the costs of quality. A brief discussion of lean accounting is included, which differs from traditional accounting systems in that it supports the analysis of value streams applicable in lean manufacturing systems. These techniques can be used to support the strategies based on either cost leadership or differentiation. They should not be viewed in isolation as other techniques discussed in this learning resource aid the sustaining of a competitive strategy. Still, the focus on cost and quality provides the opportunity to discuss them in conjunction with the generic strategies.

6.2 Learning outcomes

After studying this chapter, you will be able to:

- Discuss the merits and demerits of a competitive strategy based on cost leadership or differentiation and to identify techniques for achieving them
- Critically evaluate activity-based costing as a technique for ascertaining and controlling costs and undertake an activity-based costing exercise based on information provided
- Discuss the concept and use of lean accounting for lean manufacturing organizations
- Discuss, and illustrate with examples, the typical classifications associated with the cost of quality
- Critically evaluate the contribution that management accounting can make to the choice and sustainability of the competitive strategy

6.3 The generic competitive strategies

Active reading. Note the basic definitions of the main strategies and the techniques to achieve them. If you have studied Chapter 2 of this learning resource think about the discussion of how the provision of management accounting information can assist in sustaining the competitive strategy and whether the use of certain accounting techniques supports cost leadership rather than differentiation, or vice versa, or if indeed the techniques are useful for both.



Video link [Competitive strategies](https://www.youtube.com/watch?v=GUXmne7WUP8)

[\[https://www.youtube.com/watch?v=GUXmne7WUP8\]](https://www.youtube.com/watch?v=GUXmne7WUP8)

Porter (1985) identified the generic strategies for competitive advantage. These strategies help to determine the basis of competition, whether cost-driven or value-driven (differentiation), and the competitive scope, that is whether to target a broad market industry-wide, or whether to focus on a definable segment. It is about positioning the organization in the market; that is, it is a conscious choice.

6.3.1 Cost leadership

A cost leadership strategy seeks to achieve the position of the lowest-cost producer in the industry. By achieving the lowest production cost, a manufacturer can compete on price with every other producer in the market and earn the higher unit profits. Several strategies aid cost leadership which include:

Economies of scale

Economies of scale require high volumes of production and possibly a limited variation in the product offering, that is, standardization of products. Mature markets may become fragmented, as the focus moves toward products targeted at specific segments of the market, which can undermine the cost advantage as the cost base rises. Some of the economies of scale can be lost.

Technological advantage

The use of technology can help reduce costs and enhance productivity. Techniques include computer-aided design, computer-aided manufacturing, just-in-time purchasing, inventory management systems, and flexible manufacturing systems.

Exploiting the effects of the learning curve

Organizations become more efficient over time and, as the expertise increases, this can result in lower average unit costs. This wealth of experience makes it more difficult for new entrants who have less expertise in the production process to obtain the same degree of efficiency. It can create a barrier to entry and reduce the threat of new entrants to the industry. New technologies, however, can undermine this advantage, increasing the threat of new entrants, illustrating the need to monitor the environment continually.

Lean thinking

Adopting the principles of lean thinking can also help to support a strategy of cost leadership. Lean thinking involves always looking to eliminate inefficiencies in the systems and minimizing overheads wherever possible. Techniques such as total quality management can aid this process.

Low-cost suppliers

Using low-cost suppliers, perhaps from overseas suppliers where labor costs may be lower, can also not only keep costs low but provide a competitive advantage. It is, however, only an advantage to the extent that competitor organizations do not adopt the same policy. Movements in the exchange rates can undermine this advantage if it is not possible to pass on cost increases to customers.

Location

The choice of location can also be a source of a cost advantage. For example, locating the operations in a less expensive area such as an out-of-town site, or where government grants are available. If, however, the production is undertaken at a distance from the market, there could be a trade-off between the cost of production versus the cost of transportation. The most advantageous scenario is where low-cost production can be undertaken close to the markets served.

6.3.2 Differentiation

Differentiation is providing a product or service that is significantly different from the competitor offers, and the difference is valued by and effectively communicated to the customer.

Mintzberg (1988) suggested that there are several forms of differentiation. Image differentiation, in which the marketing strategy is used to create a distinct image or brand. Support differentiation that provides a distinctive service element during and after the sale. Quality differentiation, where high levels of reliability, durability, and performance are associated with the product. Design differentiation in which the product design includes unique features. Price differentiation in which a low-cost base enables the organization to compete on price. This last variation is the same as Porter's cost leadership strategy, suggesting that an

organization can differentiate its market offering by price. Finally, Mintzberg includes a category of undifferentiation in which none of the previous elements are emphasized.

There are other ways of differentiating the market offering that has been identified by researchers, for example, by location, positioning, technology, and innovation. The key, however, to any competitive advantage is gained through the characteristics of an organization's products or services that satisfy customer needs more directly or better than the competitors. As with cost leadership, several techniques can be used to aid a strategy of differentiation.

Strong brand image

The development of a strong brand image can help to create a barrier to entry as it takes time and money to develop the brand. New products and product variations can be generated from a strong corporate or product brand. In today's environment, taking care not to damage the corporate brand is a significant factor in maintaining the corporate image, especially in the context of corporate scandals or celebrity endorsements. Indeed, accounting scandals of late, such as accounting fraud or tax avoidance, can impact on an organization's brand. Thus, the accountant has a role to play in maintaining the corporate image.

Features and functionality

Developing features and functionality that provide the differentiating factor can provide a competitive advantage. A key element here is that the differentiating factor must be valued by the customer to support a higher price. Techniques such as value engineering and target costing (see section 7.8) can be used to help develop viable products that have distinctive features to the competition. There is a danger that in weak economic conditions, such as a recession, demand for differentiated products may reduce as consumers switch to low-cost products.

Product augmentation

A strategy that is followed by many organizations in today's customer service-led economy is to augment the product offering to provide additional elements such as after-sales support. Techniques such as the analysis of the value creation system (see section 4.9) can be used to help determine where value can be added to the customer.

Value system

Elements of the value system such as information technology development or human resource management can be used to create new products or service elements, for example, enhanced customer service, flexibility to customer demand to create the ability to customize products. As with cost leadership, new technologies available can provide competitors with the ability to erode this advantage.

Effective marketing campaigns

The consumer markets are becoming more sophisticated, and the differentiating features of a product need to be communicated to consumers. Hence, the product needs to be backed up by effective marketing, but equally, the product must back up the marketing. Consumers are quick to spot that the product does not live up to the marketing claims with a resultant reduction in the credibility of the brand.

6.3.3 Focus (or niche) strategy

In a focus strategy, an organization concentrates its attention on one or more segments or niche markets and does not try to serve the entire market with a single product. Information technology can be useful in establishing the exact determining characteristics of the chosen niche, using existing customer records. For example, an analysis of the customer base using customer profitability analysis (see section 4.7) may indicate a highly profitable segment in which the organization has a competitive advantage. Therefore, the adoption of a focus strategy may be beneficial.

A focus strategy is often said to be adopted by organizations that lack the resources to service the total market. It can, however, be a conscious decision to focus on a segment, or segments, of the market regardless of resources available, if this is a more profitable strategy. The focus of the strategy can be on cost or differentiation.

- (a) A cost-focus strategy aims to be a cost leader for a segment(s) of the chosen market
- (b) A differentiation-focus strategy pursues differentiation for a chosen segment(s).

There are several advantages to adopting a focus strategy.

Focus on customer type

The organization can focus its resources on satisfying the needs of a specific customer type and thus does not necessarily spread itself too thinly by trying to fulfill a range of customer needs. A difficulty here is that the organization is limited somewhat by the growth in the market segment. It emphasizes the need to monitor changes in the environment.

The following example illustrates how a change in the business environment can affect a focus strategy. An accountancy trainer in the U.K. decided to focus its business on providing training to large accountancy firms and only provided training towards the Institute of Chartered Accountants in England and Wales (ICAEW) professional body's qualifications. It did not offer, as did its competitors, training for other more globally oriented professional organizations such as the Association of Chartered Certified Accountants (ACCA) and Chartered Institute of Management Accountants (CIMA) qualifications. Shortly after the decision had been taken and implemented, the U.K. went into recession, and the large accountancy firms, who typically put their trainee accountants through the ICAEW professional qualification route, began to reduce their graduate intake, reducing the number of trainees that required training. The training organization got into trouble and was eventually

taken over by a competitor organization offering training for the full range of professional qualifications.

Niche market operation

An organization that dominates a niche market can reduce the amount of competition to which it is exposed. Technology changes can undermine this advantage by enabling the production of small volumes at a lower cost or providing the service more speedily. For example, on-demand printing made low-volume and specialist books a viable option for both large and small organizations.

6.3.4 Example of competitive strategies

Table 6.1 provides examples of competitive strategies and the techniques employed to support them.

Table 6.1 Examples of competitive strategies

Cost leadership	
Walmart	Everyday low prices to attract customers Large-scale and efficient supply chains High volumes and economies of scale
McDonald's	Standard processes Division of labor Centralized purchasing
IKEA	Sourcing of products in low-wage countries Basic level of service, little after-sales service provision
Low-cost airlines such as TWA, Jetstar	No-frills travel Quick turnaround
Differentiation	
Apple	Technology advantage User interface
Mercedes-Benz	Prestige vehicle Quality image Precision engineering
Nike	Association with successful sports personalities Range of specialist shoes and clothing High-profile brand
Focus	
Oscar Health Insurance	Focuses on the New York market only Uses a slogan of "No more referrals." Allows customers to talk to a doctor to tailor the quote
Whole Foods	Focuses on local stores taking away the feeling of big store image Promotes a "greener" lifestyle

Learning activity. Think of other examples relevant to your home country where you could classify the strategy being adopted by the organization as cost-led or differentiated. What, if any, is the basis of differentiation?

6.3.5 The danger of being stuck in the middle

Active reading. Think about the organizations that you identified in the learning activity. How easy was it to determine their strategy? It is becoming more difficult in some markets to identify the specific strategy being followed with any degree of precision. Note the danger where managers are not clear about following the strategy they are adopting or paying due attention to the nature of the competitive market. Also, note the use of marketing by organizations to differentiate their offering from competitors.

During the 1980s, when Porter developed his model of generic competitive strategies, it could be said that there were organizations that were definite cost leaders and those that were differentiators. Porter argued that it is dangerous to be “stuck in the middle.” Figure 6.1 illustrates an organization that is attempting to occupy the middle ground.

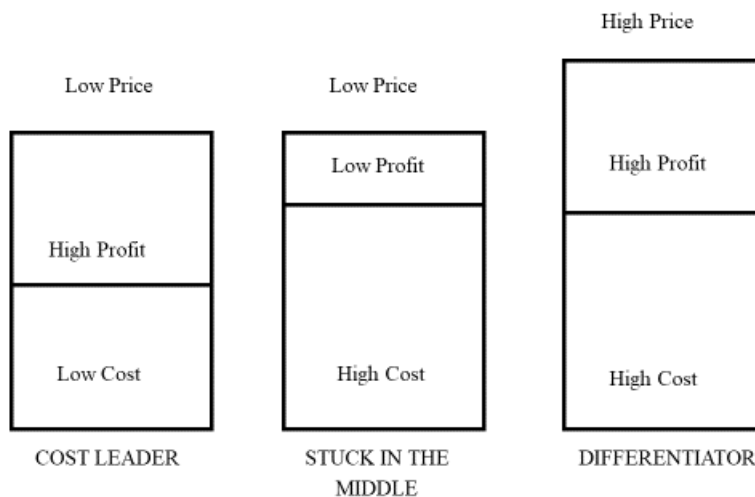


Figure 6.1 The danger of being stuck in the middle

The cost leader offers a basic product at a low cost and charges a price that provides a reasonable and sustainable profit. The differentiator has a higher cost base due to providing additional features or service elements but, as the customer values these, the differentiator can charge a higher price to produce a sustainable profit level. Now, suppose a competitor enters the market offering the same product or service as the differentiator, and therefore has the same cost base. The strategy of the new entrant is to match the price of the low-cost provider, thus providing a lower profit. This strategy could be successful in the short term as the competitor

in the middle will attract customers from both the cost leader and the differentiator. In the long run, however, both the cost leader and the differentiator will react and reduce prices, as shown in Figure 6.2.

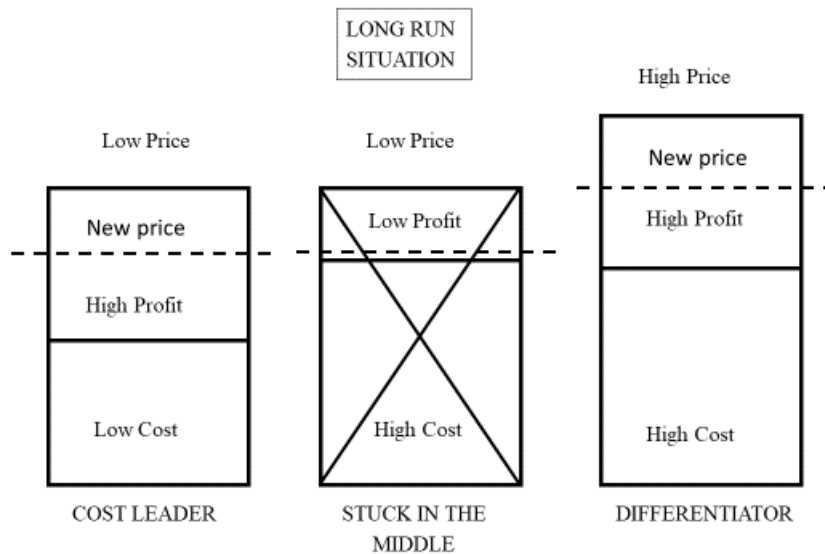


Figure 6.2 Long-run situation with price reduction

The horizontal dotted lines represent the new price due to increased competition. The customers of the differentiator will revert to the original, probably due to the established nature of the brand name. The stuck in the middle competitor will need to respond by reducing its price to the cost leader to which it had aligned its pricing strategy on entry to the market. The profitability of the stuck in the middle is now not sustainable, and the organization will likely fail. Therefore, in a competitive market, being stuck in the middle is not a sustainable strategy in the long term.

This explanation works for the markets in the 1980s when it was clear that there were cost-led and quality-led producers. However, it could be argued that today's consumer is more sophisticated and expects even the value for money products to be of good quality, which makes it more challenging to differentiate purely on the grounds of quality. The differentiating factor needs to add value to the customer. Most organizations today use marketing techniques to try and convince the consumer that their product or service is better or different than the competition, and it is probably true that all organizations are trying to keep costs to a minimum. Therefore, to the casual observer, it often becomes blurred as to whether the company is competing based on cost or differentiation.

A former CEO of the Heinz company is reported to have said that the strategy of Heinz is to put products in cans for as little money as possible, but they use marketing to convince the consumer that "Beans means Heinz." Porter's message in the 1980s was that organizations need to be clear about what their strategy is, and not to become side-tracked to find themselves stuck in the middle with no clear strategy. It could be said that organizations that provide good

quality products at low cost are stuck in the middle but, if this is the conscious decision and management are clear about the strategy, then, in essence, there is nothing wrong with this approach. Organizations in this situation may be, as some well-known supermarkets profess, striving to be a cost leader in a quality, value-added market. These markets, such as food retailing, are characterized as being highly competitive with a range of organizations that span low-cost budget providers at one end of the market to organizations that are targeting a more discerning customer prepared to pay a high price for high quality, and those in the middle. These markets can support a range of competitor organizations but are often low-margin businesses reliant on market share for their profitability.

Consumers today have high expectations when buying products or services (Ireland et al., 2011), and there is an expectation of a certain degree of quality, although it may still be true that you get what you pay for. There is, however, a growing trend for companies to adopt what might be called a hybrid strategy, that is, keeping costs low, enabling the price to be highly competitive, while offering an element of differentiation either to the product or service elements.

6.3.6 The strategy continuum

Active reading. There is a saying that the best strategy is to offer a quality product at a reasonable price. Is this stuck in the middle or taking advantage of the best of both worlds?

It could be argued that there is, in fact, a continuum between cost-leadership and differentiation, and it is finding a combination that works in the chosen markets. It is about positing the company within the market. In Chapter 3 of this learning resource, a positioning grid was introduced to undertake a cluster analysis of competitors mapped against different criteria (section 3.11). The grid for price versus quality is shown in Figure 6.3.

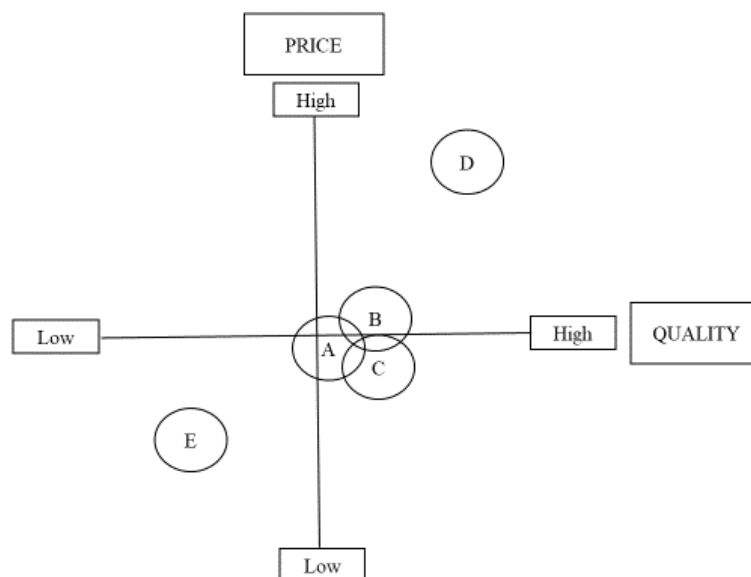


Figure 6.3 Competitor position grid.

A similar idea could be employed for cost leadership and differentiation. Figure 6.4 illustrates a slightly different representation of the choices available.

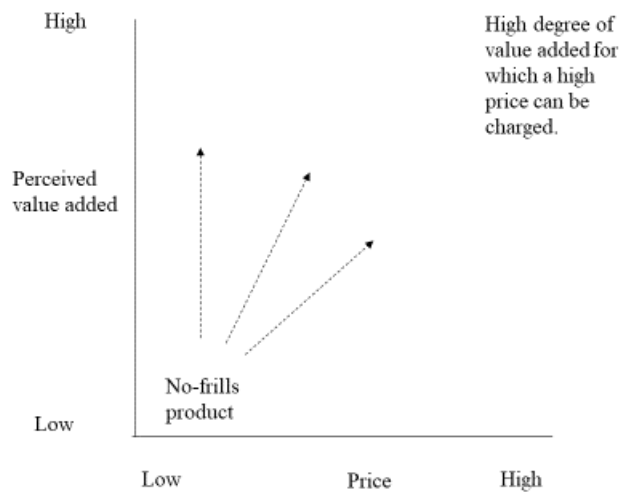


Figure 6.4 Strategic choice between the degree to which competition is based on a low-cost base or degree of added value.

The idea behind figure 6.4 is that if, for example, enough volume could be attained to keep the cost base low, it might be possible to add a high degree of added value. It is not, therefore, just a case of being a stark choice between one or the other but finding a balance between the two that provides a market offering that is sustainable in the long term. It can be used as a form of cluster analysis by mapping the competitors on the grid and identifying potential gaps in the market. Possible strategies can then be evaluated to determine if the position is sustainable in the long term. It may be evident that some strategies are not sustainable in the long run, such as providing a low degree of added value and charging a high price. Still, the process of mapping competitors can provide some useful insight into where a potential competitive advantage could be developed.

Learning activity. Think of some products and services that you enjoy. Who are the competitors in the marketplace? Where in the market is your preferred brand positioned? Do they have an element of differentiation?

6.4 Pricing strategy

Active reading. Note the strong link between accounting and marketing in developing the pricing strategy. Also, take note of the other accounting techniques where the price is a significant factor in the analysis.

Pricing strategy is an integral part of the organization’s competitive strategy and can be used to support the position of the product or service in the marketplace. Price can be defined as a measure of the value exchanged by the buyer for the value offered by the seller. The primary business model is to sell something for more than it cost to produce or provide. The price should, therefore, reflect the value-added.

Price is part of the basic marketing mix of price, product, place, and promotion (McCarthy, 1964) and the extended mix said to be applicable to service sector organizations, which adds participants, physical evidence, and processes (Booms and Bitner, 1981). The price directly impacts on the income of any organization and ultimately on the profits of a commercial organization. Although there has been criticism of the 4 and 7 P’s framework (see, for example, Rafiq and Ahmed, 1995), it is still widely taught. Some of the criticisms focus on the issue that although organizations attempt to integrate their marketing strategy fully, the various components of the 4 or 7 P’s are developed or delivered by different departments within the organization. Customers also experience the effect of the various P’s at different times, occasions, and places. Accountants are more likely to have direct input to the price component than other elements of the mix. Although techniques such as target costing (section 7.8) and life cycle costing (section 7.9) mean that input into the product or service design is possible, and some would say desirable.

When thinking about pricing, it is essential to understand the pricing objective. For example, is the objective to achieve volume sales, for example, market penetration, or to maximize profits? These indicate a low price or high price, respectively. Pricing could also be determined by reference to the three Cs: cost, which is the lowest price an organization would ideally wish to set unless adopting a loss leader approach; customer-perceived price, which is the price that customers would be prepared to pay determined by marketing research; or competitor pricing in which the price is set at the level of a competitor where competition is focused on product rather than price.

There is also a link between pricing and the marketing communications strategy used on the initial product launch, which is illustrated in Table 6.2.

Table 6.2 Pricing strategy

	Low level of marketing relying on word of mouth	High level of marketing spend using a full range of communication techniques, especially advertising
Low price	Slow penetration	Rapid penetration
High price	Slow skimming	Rapid skimming

The choice can be to penetrate the market or skim profit off the market before competitors follow. The pricing objective is particularly relevant to new product development. There are also implications for manufacturing, as discussed in Chapter 4 under the product life cycle (section 4.4.), where a decision must be made concerning the level of production and initial

inventory levels. Also, pricing becomes a weapon under intense competition in the mature stage of the life cycle, or a means of survival when following a harvest strategy. This decision provides another example of where the techniques discussed are not used in isolation but are relevant to many different stages of strategy development and implementation, hence supporting the strategic management process.

Some markets, such as business to business markets, may operate a market pricing approach, in which the market determines the price. Where market pricing is the norm understanding the cost base, or being able to estimate costs quickly via standard costing methods, become significant as pricing without this understanding can create problems later. For example, a CEO of a consulting engineering firm is reputed to have said that cost-plus pricing no longer works as they bid for the contracts under a competitive tendering scheme. Hence, they put in a bid at a price they think will win the contract. Then once the contract is acquired, they figure out how to do it for that price. This approach to pricing can be dangerous as too many jobs obtained like this on a potentially low margin in an increasingly competitive market may not be sustainable in the long run. It may also mean that the quality of the work is substandard, which will impact on the organization's reputation and ability to win contracts in the future. In cases such as this, it would be safer to use the concept of target costing (section 7.8) to ensure that a viable product can be produced at a cost that allows a profit to be made before the bid price being submitted.

Other considerations include price sensitivity, which can vary among the purchasers. Price sensitivity differs depending on the market. In consumer markets, it is the end consumer that reacts to price changes. However, in business-to-business markets, an intermediary who can pass on any price increases to their customer will not be as price sensitive as one that is unable to pass on increases in their costs. This emphasizes the need for organizations to work together through the supply chain.

The price elasticity of demand (Figure 6.5) is also a factor in matching production capacity with customer demand. The price elasticity of demand is calculated as:

$$\frac{\% \text{ change in quantity demanded}}{\% \text{ change in sale price}}$$

When the demand is elastic (that is greater than 1), a reduction in price will have a more significant impact on the quantity demanded. If inelastic, there is less of an effect. Apart from the impact on demand, the total revenue is also affected. When demand is elastic, if the price is lowered, it creates a more significant increase in demand, and total revenue would increase, but when the price is increased, there is a substantial reduction in demand, and total revenue will fall. When inelastic, a fall in price might reduce total revenue as the rise in demand may not be enough to compensate for the reduction in price. When the price is raised under inelastic conditions, the total revenue may increase as the impact of the small decrease in demand may not have that great an effect. Understanding the elasticity of demand and price sensitivity is

crucial as it will affect the overall profitability of the product or service. It has implications for promotional pricing and discounts to encourage sales.

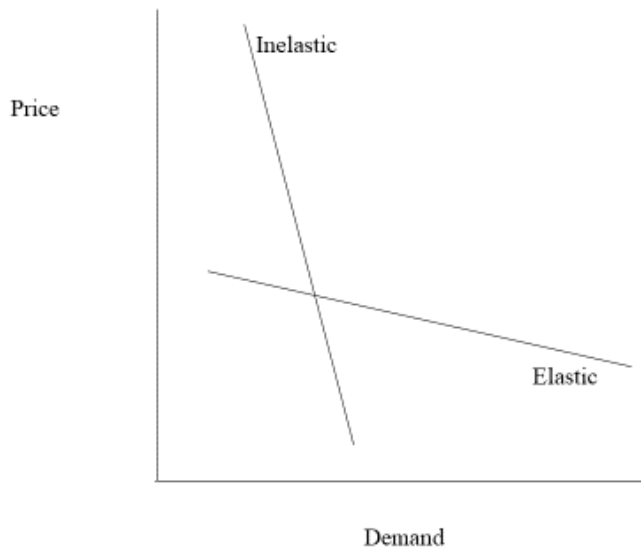


Figure 6.5 Elastic and inelastic demand curve

There are also psychological pricing points to consider, such as the \$99 or \$5.95. The perception of price and quality can also be factors. For example, consumers have been known to make quality judgments based on price. Charging too little could make the product appear cheap, or developing an exclusive brand could support a much higher price as consumers purchase it for its prestige value.

Price can be a competitive weapon and is often used in this way in the growth stage of the product life cycle. The first mover, having already established a market share, can afford to cut margins to deter competitors. However, price decreases to deter competitors can result in a price war with the resultant impact of reducing the margins for all players in the market. It is often difficult to raise the price again, especially if there are low switching costs for consumers. Accountants can aid the decision-making process of the initial pricing decision and on the impact of adjusting prices through the life cycle. Techniques such as activity-based costing (section 6.6), customer profitability analysis (section 4.7), target costing (section 7.8), life cycle costing (section 7.9), and simple techniques such as cost volume profit analysis (Appendix B.3) all have something to offer.

Learning activity. Think about the different categories of products that you purchase or would like to purchase. Categories include convenience/essentials (toothpaste, food), shopping goods (TVs, mobile phones, sound systems), and specialist goods (expensive cars, Rolex watches).

How much emphasis do you put on price in your purchasing decision in each category?

If you place a high emphasis on price in certain categories, would an appropriate strategy be based on striving to be the cost leader? In categories, if any, where you do not emphasize price, would differentiation be more appropriate?

Do you think that understanding customer buying behavior would help in developing a competitive strategy?

6.5 The value creation system revisited

Active reading. Note the need to ensure consistency of competitive strategy throughout the whole of the value system. Also, the importance of information flows through the value system.

One of the critical elements for the success of an organization today is the development of a sustainable competitive advantage. Ideally, that advantage needs to be unique, sustainable, and valued by and relevant to the customer. The problematic element today is the sustainability of a competitive edge. The internal analysis can aid the development of the competitive advantage, as a detailed analysis of the strengths and weaknesses relative to the competition can help to establish not only a core competence but also a distinctive competence that the competitive advantage can be built around. A core competence can be described as an activity that the organization needs to be good at to survive in the industry, whereas a distinctive competence is an activity at which the organization excels to a higher degree than its competitor organizations (Mooney, 2007). In Chapter 4, section 4.9, the analysis of the value creation system was put forward as a useful tool to aid the development of competitive advantage. The wider value creation system can also be used to support the strategies of cost leadership and differentiation.

Configuring the value creation system to support the strategy is a critical part of sustaining a competitive advantage. It is vital to ensure that the competitive strategy is consistent throughout the entirety of the supply chain. It is, therefore, significant in supplier evaluation (section 4.10) and customer profitability analysis (section 4.7). It is not confined to business-to-business markets, but also in consumer markets where the customer adds value, such as the do-it-yourself (DIY) market or flat-pack furniture. In consumer markets, the strategy is targeted at customers who purchase based on low price, or who are looking for the features of a differentiated product.

The importance of information flows within the value system should also not be understated as these can be as crucial as physical flows of products, for example, flows of data from the customer to the suppliers or partner organizations. Retailers who sell a washing machine and arrange for a local plumber to install it at the customer's convenience need to make sure that it is a profitable enterprise for all parties. Therefore, the availability of cost information through the supply chain can be significant. The provision of complementary

services is becoming more common in the complex supply chains developing in today's business environment.

It was noted in Chapter 4 during the discussion of the internal analysis that activity-based costing (ABC) can be used within the value creation system to identify the costs of activities and support the competitive strategy. ABC can aid the support of a cost leadership strategy by assisting in the management of costs that are critical in the provision of the product or service. Similarly, as a differentiation strategy might be concerned with providing a higher quality or increased value-added, enabling a higher price to be charged, ABC can again assist in the management of the activities.

6.6 Activity-based costing (ABC)

Active reading. Note how a total absorption costing method can distort product costs and lead to incorrect decisions.



Video link [ABC - A basic introduction](https://www.youtube.com/watch?v=6yKfK0AGCs&t=11s)

[\[https://www.youtube.com/watch?v=6yKfK0AGCs&t=11s\]](https://www.youtube.com/watch?v=6yKfK0AGCs&t=11s)



Video link [ABC - An example using more than one product](https://www.youtube.com/watch?v=CofJQy3j51I&t=1s)

[\[https://www.youtube.com/watch?v=CofJQy3j51I&t=1s\]](https://www.youtube.com/watch?v=CofJQy3j51I&t=1s)

The total cost of a product will include the direct costs of production plus an element of fixed costs. Therefore, the fixed (overhead) costs need to be allocated across the various products in some meaningful way. The full absorption product cost is required for inclusion in the financial accounts prepared under the U.S. GAAP (Generally Accepted Accounting Principles), and U.K. GAAP. Unfortunately, these are not useful for decision-making (Datar and Gupta, 1994). To arrive at the full absorption product cost, traditionally, manufacturing overheads might have been allocated to products on a single company-wide basis, such as labor hours, machine hours, material kilograms used, or simply based on the number of units produced.

An overhead absorption rate based on labor hours would be calculated as follows:

$$\frac{\text{Total overhead costs}}{\text{Total labor hours}} = \text{overhead rate per labor hour}$$

$$\frac{\$400,000}{200,000 \text{ hrs}} = \$2 \text{ per labor hour}$$

The cost of a product would then be calculated, as shown in Table 6.3.

Table 6.3 Calculation of product cost

		\$
Materials	2 kg @ \$2 per kg	4
Labor	1 hour @ \$12 per hour	12
Total direct costs		16
Overhead costs	1 labor hour @ \$2	2
Total cost		18

When overheads are allocated using a single absorption rate, for example, direct labor hours, the effect could be to penalize those products that are labor-intensive; or if allocated on a machine hour basis, it penalizes products that are machine-intensive. The danger is that, depending on the basis used, different cost allocations could arise and encourage an incorrect decision.

For example, suppose XYZ Company manufactures three products.

The following basic information is provided about the price, material and labor usage and costs, and volumes, associated with the three products, shown in Table 6.4. The fixed costs, or overheads, are given as \$12,000.

Table 6.4 Basic information for products A, B, and C

	A	B	C	
Selling price	\$20	\$20	\$20	
Materials \$2 per kg	1 kg	2 kg	3 kg	
Labor \$5 per hour	3 hrs	2 hrs	1 hr	
Volumes	1,000	1,000	1,000	
Total materials	1,000 kg	2,000kg	3,000kg	6,000kg
Total fixed costs				\$12,000

If we use the materials usage as a basis for allocating the fixed costs to the products, we calculate a rate of \$2 kg would be appropriate. The total number of materials kgs has been derived in Table 6.4.

Overhead absorption rate per kg:

$$\frac{\$12,000}{6,000kg} = \$2 \text{ per kg}$$

To calculate the fixed costs allocated to each product, the number of kgs used for each product is multiplied by the \$2 per kg for fixed costs. The product costs and profits are shown in Table 6.5.

Table 6.5 Costs and profit for products A, B, and C using materials as the basis for allocating fixed costs.

	A	B	C	Total profit
	\$	\$	\$	
Selling price	20	20	20	
Less materials	2	4	6	
Less labor	15	10	5	
Contribution	3	6	9	
Less fixed costs per kg of materials	2	4	6	
Net profit	1	2	3	
Volumes	1,000	1,000	1,000	
Profit	\$1,000	\$2,000	\$3,000	\$6,000

Now suppose we were to use the labor hours to allocate fixed costs instead of material usage. The rate is still \$2 per hour, but the cost of each product changes once the fixed costs are allocated based on labor hours used. As a first step, we need to calculate the total number of labor hours required, as shown in Table 6.6.

Table 6.6 Total labor hours required to produce products A, B, and C.

	A	B	C	
Selling price	\$20	\$20	\$20	
Materials \$2 per kg	1 kg	2 kg	3 kg	
Labor \$5 per hour	3 hrs	2 hrs	1 hr	
Volumes	1,000	1,000	1,000	
Total labor hours	3,000 hrs	2,000 hrs	1,000 hrs	6,000 hrs

Overhead absorption rate per labor hour would be:

$$\frac{\$12,000}{6,000hrs} = \$2 \text{ per hour}$$

The direct costs are unchanged so that the contribution per product is the same, but table 6.7 shows the new profits/(losses) calculated using the labor hours as the basis for fixed costs.

Table 6.7 – Profits calculated using labor hours as the basis for allocating fixed costs.

	A	B	C	Total profit
	\$	\$	\$	
Contribution – as before	3	6	9	
Fixed costs labor hours	6	4	2	
Net profit/(loss)	(3)	2	7	
Total profit/(loss)	(\$3,000)	\$2,000	\$7,000	\$6,000

If we compare the profits per product from the material overhead absorption rate per kg and the labor hours overhead absorption rate per hour in Table 6.8, we can see that the total is the same, but the allocation between products is entirely different.

Table 6.8 Comparison of profits calculated using materials and labor to allocate fixed costs.

	A	B	C	Total profit
Profit – from material kg basis	\$1,000	\$2,000	\$3,000	\$6,000
Profit (loss) – from labor hour basis	(\$3,000)	\$2,000	\$7,000	\$6,000

The only difference between the two calculations is the basis we have used to allocate the fixed costs. It is, therefore, dangerous to make decisions on full product costing using a single overhead absorption rate. The analysis in Table 6.7 might indicate that XYZ Company should cease production of product A, as a loss is made after allocating fixed costs. However, the product still contributes towards fixed costs and profit, and the fixed costs will remain the same whether product A is produced or not. If product A is not produced, the fixed costs will be reallocated across products B and C only, reducing the profit from each. This example illustrates further that product mix decisions are best made using the contribution as the financial input to the marketing and operations dimensions of the decision. Remember that decisions should not be made solely based on the numbers.

6.6.1 Why use ABC?

Active reading. Note the rationale behind the development of activity-based costing. Think about how it aids decision-making and provides additional information for cost management.

ABC is a method of allocating overheads to products using multiple bases on which to allocate the costs to products. The technique was proposed by Cooper and Kaplan (1988) but has met with limited take up in some areas. It is said that activities create costs and, therefore, the logical way to allocate costs to products is via the activities that are undertaken to create and provide the products or services. ABC looks at costs from the micro-level where the activities cause

the costs and therefore help managers to understand how the activities are linked to generate revenue and consume resources (Cooper and Kaplan, 1991). It is one reason why ABC fits well with the analysis of the value creation system in determining and sustaining competitive advantage as both are concerned with identifying activities that add value. ABC helps managers focus on improving activities that have the most significant impact on the bottom line (Cooper and Kaplan, 1991).

Several studies demonstrate that ABC has a positive effect on performance, by allowing managers to improve efficiencies of activities and reduce costs (see, for example, Jelsy and Vetrivel, 2012; Hardan et al., 2013). Rezaie et al. (2008) found that ABC was particularly useful in estimating costs and negotiation specifications of products with customers to improve performance for both parties, particularly in flexible manufacturing environments. For example, working with customers in the design of components and products, designing parts for ease of handling, or selecting materials and processes can help to reduce the cost of manufactured products (Ong et al., 1993). Complex manufacturing processes have an impact on the labor required, inventory management, and capital investment, which in turn can impact the number of orders placed, the purchasing activity, production control, and so forth (Gunasekaran and Sarhadi, 1998). ABC enables managers to understand the impact of the product design on these activities and the ultimate cost/price in negotiations. Discussing operational changes with customers, such as shipping and order processing, can help to reduce the costs of both parties.

Wegmann (2009) notes two broad types of analysis. Firstly, a customer-driven ABC system which is aimed at helping managers to make better decisions regarding customer relationships. It is achieved primarily via a review of the activities within the internal value creation system. Secondly, an inter-organizational cost management system that recognizes the use of ABC throughout the whole value system. For example, working backward from a market selling price at which customers are willing to buy, and deducting the desired profit of the selling organization, arrives at a target cost (section 7.8). This cost includes the costs (and profit margins) of members of the supply chain or the whole value creation system. Using ABC, organizations can work together to ensure that the end price can be achieved for the customer and all members of the supply chain receive an adequate reward for their input. This sharing of profits does require cooperation between parties and the exchange of information but can benefit all parties concerned (Carey et al., 2011). It can also work towards reducing the incidence of buyer/supplier power within the supply chain as it encourages cooperation and collaborative working.

As ABC uses a range of different bases, more appropriate and directly aligned to the activity that creates the cost, it is said to produce a fairer allocation of overhead costs. It has the added benefit of highlighting the cost of activities that could stimulate management action. The banking industry was allegedly shocked to realize how much it cost to process a cheque when ABC was applied. Hence a push towards encouraging customers to adopt online banking.

The technique is also beneficial for industries that have high fixed overhead costs, but that undertake a range of activities, such as banking, universities, and hospitals. It is worth noting that when implementing ABC, the volume of information and data required about activities, as

well as costs, increases. Modern information systems, however, ease the burden of collecting information about activities as they can collect nonfinancial and financial data in a shared database that can then be analyzed across products.

Ideally, costs and activities should be based on forecast/estimated (budgeted) levels of activity as there is no guarantee using historical data will be an accurate representation of the costs and activities of the next year. Therefore, as with all cost systems based on forecast data, the accuracy will depend on the degree of certainty that can be applied to the forecasts. It can be used as part of the target-setting process, that is, setting targets for costs, and then monitoring against these so that experience is built up over time, which results in more accurate forecasts, as with most aspects of planning the better the understanding, the better the plan.

6.6.2 The process of ABC—an Example

Active reading. Note that there is a logical series of steps involved in calculating the product costs under ABC. Create a list of the data required and the sequence of steps involved as you follow the process through the example provided.

Basic data

ABC Inc. is considering producing a range of picnic tables. The accountant has been asked for input on the pricing decision. The following information shown in Table 6.9 has been collected.

Table 6.9 Overhead costs analyzed by cost pool

Activity	Cost driver (basis of allocation)	Cost pool (\$)
Assembly	Number of labor hours	55,998
Purchasing department	Number of purchase orders	1,989
Delivery costs	Number of deliveries	30,000
Machine maintenance	Number of machine hours	46,500
Inspection and quality and control	Number of inspections	25,000
Total overhead costs		159,487

There are three styles of table proposed: round, square, and octagon. Information relating to the production process is provided in Table 6.10 as follows:

Table 6.10 Product information for ABC

	Round	Square	Octagon
Direct material costs per unit	\$120	\$105	\$115
Number of machine hours required per individual product	0.75 hour	0.5 hour	1.0 hour
Number of labor hours required per individual product	2 hours	2 hours	2.1 hours
Number of purchase orders received from central purchasing	3	4	6
Number of deliveries made to the central warehouse	10	30	40
Number of inspections	150	150	200
Production (number of units)	1,500	1,500	2,000
Mark-up on cost to be applied	30%	30%	40%
Labor is paid at \$10 per hour including social charges			

The ABC calculation

The total activity level is calculated for each activity using the information in Table 6.10. For example, multiplying the labor hours for each product by the production volumes provides the total number of labor hours required. Adding the number of purchase orders raised concerning each product gives the total number of purchase orders raised, and so on, as shown in Table 6.11

Table 6.11 Calculation of total activity

Activity	Round	Square	Octagon	Total
Number of machine hours	1,125	750	2,000	3,875
Number of labour hours	3,000	3,000	4,200	10,200
Number of purchase orders	3	4	6	13
Number of deliveries	10	30	40	80
Number of inspections	150	150	200	500
Production units	1,500	1,500	2,000	5,000

The result is shown in the column header “Total activity” in Table 6.12. By dividing the total cost of each activity (shown in Table 6.9) by the total activity (Table 6.11) provides a rate per activity, as shown in the column headed “Activity rate” in Table 6.12.

Table 6.12 Cost driver rate per activity

Rate per cost driver	From Table 6.9	From Table 6.11	
	\$	Total activity	Activity rate (\$)
Assembly—activity of labor hours	55,998	10,200	5.49
Purchasing—activity of purchases	1,989	13	153.00
Delivery—activity of deliveries	30,000	80	375.00
Machine maintenance—activity of machine hours	46,500	3,875	12.00
Inspection—activity of inspections	25,000	500	50.00
Total	159,487		

The next step is to calculate the overheads assigned to each product by multiplying the activity per product (shown in Table 6.10) by the cost driver rates (shown in Table 6.12) and ascertain the overhead cost per product. The result of this step is shown in Table 6.13.

Table 6.13 Overhead rate per product

	Round	Square	Octagon	Total
	\$	\$	\$	\$
Assembly	16,470	16,470	23,058	55,998
Purchasing	459	612	918	1,989
Delivery	3,750	11,250	15,000	30,000
Machine maintenance	13,500	9,000	24,000	46,500
Inspection	7,500	7,500	10,000	25,000
Total overheads per product	41,679	44,832	72,976	159,487
Production units	1,500	1,500	2,000	
Overhead rate per product (\$)	27.79	29.89	36.49	

Finally, the total cost can be calculated by adding the materials, labor, and overheads together, as shown in Table 6.14. The mark-up can then be calculated to arrive at the selling price.

Table 6.14 Calculation of selling price per product

Product cost and selling price using ABC	Round	Square	Octagon
	\$	\$	\$
Materials	120.00	105.00	115.00
Labor	20.00	20.00	21.00
Overheads	27.79	29.89	36.49
Total cost	167.79	154.89	172.49
Mark-up	50.34	46.47	69.00
Selling price	218.13	201.36	241.49

Learning activity. Using the data provided below, follow the same steps as in Tables 6.11 – 6.14 to calculate the ABC for the three types of the picnic table. The solution is provided at the end of section 6.6.5.

Overhead costs

	\$
Assembly	93,000
Purchasing	1,400
Delivery	15,075
Machine maintenance	23,500
Inspection	16,250
Total	149,225

Data on picnic tables

	Round	Square	Octagon
Direct material costs per unit	\$100	\$80	\$120
Number of machine hours required per individual product	0.8 hour	0.5 hour	1.0 hour
Number of labor hours required per individual product	1 hour	1 hour	1.5 hours
Number of purchase orders received from central purchasing	4	4	6
Number of deliveries made to the central warehouse	12	25	30
Number of inspections	200	200	250
Production (number of units)	2,000	2,000	2,500
Mark-up on cost to be applied	30%	30%	40%
Labor is paid at \$12 per hour including social charges			

6.6.3 Benefits and drawbacks of ABC

Active reading. Think about how ABC is used strategically. Note any difficulties associated with the practical application of ABC.

The use of multiple rates based on the actual activities provides a fairer allocation of overheads associated with each product, as it takes account of the use made of various activities. For example, Octagon uses more inspection resources and, therefore, is charged more of the cost incurred for inspection. The ABC method also highlights the costs of handling orders and

delivery as well as inspection, and these areas could be targeted for further investigation. For example, there may be more efficient ways of operation or allocation of resources that could potentially reduce the costs of these activities, improving the profitability of all products. In this way, ABC supports the maintenance of a cost leadership strategy.

It is also worth noting that with ABC, if the level of activity changes on the delivery, order handling, and inspections, then the allocation of costs would also change. It can be dangerous to put too much emphasis on the accuracy of ABC costs, as if they are based on previous years, then these are only valid if the activity in the next year is similar. Also, if based on estimates of next year's activity, they rely on the degree of accuracy in the forecast. It should also be noted that ABC is still a form of full absorption costing and can still lead to incorrect decisions (Geiszler et al., 2017). ABC does, however, provide more detailed information on which to make an informed pricing decision, but consideration should also be given to other factors such as market price, complementary products, degree of marketing support, production capacity, and the overall pricing objective. It is important to discuss the figures with the marketing department, as well as production managers, and undertake some sensitivity analysis around the volumes, as pricing decisions can change the mix of products sold, which in turn will influence the level of activity, such as order handling and delivery, thus affecting the ABC costs.

ABC can also aid the maintenance of a differentiation strategy by providing a more informed cost associated with the functionality or service elements provided as part of the product or service offering. This information can be invaluable not only in determining the pricing strategy but also in evaluating the value added to the product in real terms. Differentiators invariably have a higher cost base, and therefore understanding the costs of the differentiation factors is significant for the sustainability of the strategy in a competitive market.

Despite the benefits of ABC, the adoption rates have been relatively low (Chenhall and Langfield-Smith, 1998; Innes et al., 2000; Kiani and Sangeladji, 2003; Al-Omiri and Drury, 2007; Askarany and Yazdifar, 2007; Byrne et al., 2009). The chief reasons appear to be the degree of complexity, compatibility, and observability of results (Askarany and Yazdifar, 2007), the vast amounts of time and resource commitments required (Kaplan and Anderson, 2004), the lack of integration with other systems in the organization (Sharman, 2003) and a lack of top management support (Kiani and Sangeladji, 2003; Cohen et al., 2005). Baird et al. (2004) noted that ABC is sometimes used to make improvements to an existing system but was not adopted as a long-term solution, that is, not updated regularly.

6.6.4 Time-drive activity-based costing (TDABC)

Active reading. Note the reason why TDABC was introduced, and the benefits claimed over ABC.



Video link [Time driven activity-based costing](https://www.youtube.com/watch?v=o2TQyrmGsd4&t=1s)

[\[https://www.youtube.com/watch?v=o2TQyrmGsd4&t=1s\]](https://www.youtube.com/watch?v=o2TQyrmGsd4&t=1s)

Kaplan and Anderson (2004) promoted the use of time-driven activity-based costing as a way of reducing the burden of implementing ABC. The ABC process can be reduced to just two parameters, the cost per time taken for each unit of resource consumption of the activity, and the length of time each activity takes.

The best way to illustrate this is to use an example of a customer service department that undertakes three basic activities — handling customer orders, conducting customer credit checks, and dealing with customer complaints. The first parameter that needs to be estimated is how long each activity takes. This data can be collected via a detailed time and motion study or determined based on the experience of the members of the department. Table 6.15 shows the length of time taken by each activity.

Table 6.15 – Time taken by each activity

Activity	Time taken
Order handling	1.5
Credit checks	5
Dealing with customer complaints	8

The total capacity of the department needs to be ascertained to calculate the cost per hour.

To keep the numbers simple, assume that there are 10 workers, who each work a 40-hour week for 50 weeks of the year. This gives a capacity of 20,000 hours. Managers have the option to use the number of hours based on the practical capacity, as the estimate used here does not allow for breaks and so forth. What we are really looking for is the available hours for performing the activities.

Based on management accounting costing records, the costs associated with the department amount to \$800,000 per annum. The rate per hour can be calculated at:

$$\frac{\$800,000}{20,000 \text{ hours}} = \$40 \text{ per hour}$$

Suppose the volumes of activities performed within the department during the year are shown in table 6.16.

Table 6.16 Number of activities undertaken by the department in the year.

Activity	Number performed
Order handling	6,000
Credit checks	600
Customer complaints	500

We can now calculate the costs associated with the activities, as shown in table 6.17.

Table 6.17 – Costs associated with each activity and cost of unused capacity

	Time taken in hours	Cost per activity at \$40 per hour \$	Activity volumes performance	Cost allocated to the activity \$
Order handling	1.5	60	6,000	360,000
Credit checks	5	200	600	120,000
Customer complaints	8	320	500	160,000
The total cost of activities performed				640,000
The total cost of the department				800,000
Cost of unused capacity				160,000
Hours unused				4,000 hours

The benefit of this approach is that it highlights the unused capacity within the department (Anderson and Kaplan, 2004; Kaplan and Anderson, 2007). This knowledge aids resourcing decisions as it might mean that the department is overstaffed, with the possibility of redeploying staff to other value-adding tasks. As with the original ABC, it highlights the costs of activities and prompts inquiry, for example, should it really take so long to deal with customer complaints or credit checks. The processes involved can be reviewed to see if improvements in the systems, training, or other factors could be changed. The added benefit of the approach is that when changes are made to the operation, there are limited changes to be made to revise the ABC process. The two factors to change are either the rate per hour or the time taken per activity. As experience is gained, it provides for better budgeting of the resources required to undertaken activities.

The time-driven approach can also deal with complex operations in that processes can be broken down into their constituent activities. For example, dealing with a customer complaint could involve several processes within the investigation and resolution process. The time taken for each element can be determined, and the total time, which may be an average time for the procedure, can be calculated. The TDABC system could also be made more complicated if an organization found it beneficial to track constituent parts of a process as individual elements, rather than aggregate them into a single operation. For example, customer complaints could be analyzed as to the type of complaint as depending on the nature of the complaint, certain elements, such as return an item to stock, may not be required. Many Enterprise Resource Planning (ERP) systems used by organizations are capable of tracking detailed nonfinancial data and amalgamating this with cost data. The system then provides the information to understand the activities and the associated costs, which makes for more informed decision making.

Linking the ERP data with financial data is the basis of “resource consumption accounting,” which is a system that combines the advantages of ABC with the German managerial accounting’s emphasis on resources. The system uses detailed data from the ERP systems to track, maintain, and group, accurate information to integrate the operational data with the financial information. Like TDABC, it highlights the use of ideal or underutilized capacity and does not allocate these to products but treats them as a variance. The idea is to make the unused capacity visible to promote accountability for capacity utilization and to facilitate resource acquisition decisions (Van der Merwe and Keys, 2002).

6.6.5 Activity-based management (ABM)

Active reading. Note that activities do not manage themselves but require management to act. Would ABC work without ABM?

When considering ABC, it is worth noting that undertaking an ABC exercise achieves nothing if it is not followed up by management action. It is, therefore, necessary to implement activity-based management systems at the same time. ABM and ABC go together as ABM is concerned with the management of activities to improve the performance of the organization. ABC effectively puts a cost on these activities.

ABM is also useful if used in conjunction with the analysis of the value creation system in that the organization can actively manage the activities. It is a requirement of sustaining a competitive advantage. The value system facilitates the identification of competitive advantage, while ABM can facilitate the management of the activities to maintain the position. ABC provides information that can aid the identification of areas where costs need further investigation as well as valuable information that can feed into pricing strategies, make or buy, and outsourcing decisions.

6.6.6 A solution to ABC learning activity

Step 1 – Calculate the total activity

Activity	Round	Square	Octagon	Total
Number of machine hours	1,600	1,000	2,500	5,100
Number of labour hours	2,000	2,000	3,750	7,750
Number of purchase orders	4	4	6	14
Number of deliveries	12	25	30	67
Number of inspections	200	200	250	650
Production units	2,000	2,000	2,500	6,500

Step 2 – Calculate cost driver rates

Rate per cost driver			
	\$	Activity	Activity rate
Assembly	93,000	7,750	12.00
Purchasing	1,400	14	100.00
Delivery	15,075	67	225.00
Machine maintenance	23,500	5,100	4.61
Inspection	16,250	650	25.00
Total	149,225		

Step 3 – Calculate the overheads allocation to products

	Round	Square	Octagon	Total
	\$	\$	\$	\$
Assembly	24,000	24,000	45,000	93,000
Purchasing	400	400	600	1,400
Delivery	2,700	5,625	6,750	15,075
Machine maintenance	7,376	4,610	11,525	23,511
Inspection	5,000	5,000	6,250	16,250
Total overheads per product	39,476	39,635	70,125	149,236
				Rounding*
Production units	2,000	2,000	2,500	
Overhead rate per product \$	19.74	19.82	28.05	

* Note – the rounding is due to the use of 2 decimal places on the machine maintenance rate

Step 4 – Calculate the product cost and selling price

Product cost and selling price using ABC			
	Round	Square	Octagon
	\$	\$	\$
Materials	100.00	80.00	120.00
Labour	12.00	12.00	18.00
Overheads	19.74	19.82	28.05
Total cost	131.74	111.82	166.05
Mark-up	39.52	33.55	66.42
Selling price	171.26	145.37	232.47

6.7 Lean accounting

Active reading. Think about the practical implications of lean accounting. It is a system that accompanies lean manufacturing. Note the focus on capacity usage and the potential link to the value creation system. Also, note the requirement for the collection and reporting of nonfinancial information.

Lean accounting is proposed as the accounting system of organizations that adopt a lean manufacturing approach. Although the principles of lean can be applied to any function, production process, or service delivery, it tends to be thought of as mostly associated with manufacturing. A fundamental principle of lean is that it helps employees to learn how to use an organization's times and resources better to deliver value to the customer. It is a long-term strategy of continuous improvement.

In lean manufacturing, the process is set out in sequence and groups of activities so that employees perform operations in work cells or groups. Employees are encouraged to cross-train so that they undertake a series of tasks to complete a process in situ rather than undertaking a small element of a process where, under the old systems, a product passes through a series of departments, each undertaking a small task. Inventory of raw materials and components is reduced to a minimum, and just-in-time delivery is demanded of the suppliers, requiring close cooperation within the supply chain.

A primary objective is to eliminate wastage in the process as this wastes time and money. For example, reworking a product takes time, and if this is reduced, it not only saves time, it frees the capacity to produce good products. It is a customer-focused demand-pull system so that instead of manufacturing for stock, manufacturing occurs in response to customer orders. If flows through the process can be improved, inventory reduced, and on-time delivery met, revenue growth should follow. It is argued that improved productivity means improved cost control and improved capacity (Maskell and Baggaley, 2006).

Lean manufacturing embraces similar principles to those put forward in the ISO 9001:2000 quality standard. The international quality standard incorporates the principles of customer focus, leadership, involvement of people, process approach (managing related activities and resources as integrated systems), systems approach to management (managing groups of related processes as integrated systems), continual improvement, factual approach to decisions, and mutually beneficial supplier relations. All of these can be seen to be embedded within lean.

A problem with traditional accounting systems is that it can encourage production to keep average costs low. If there are high fixed costs, one way to reduce the average cost or overhead recovery is to produce more products. This action can encourage high inventory levels, which ties up space and capital.

Organizations using lean manufacturing also found that using a standard costing system did not work so well as a tool for the management of costs. Standard costing systems establish a standard cost for each product and use this to calculate a range of variances from actual costs that allows managers to see where and why deviations from standard occur and thus to take corrective action. Traditional costing systems are based around allocating costs to departments and allocating costs to products. Lean focuses on creating value streams that do not necessarily fall neatly within departments but follow a process of creating value through the system. Therefore, many of the variances calculated from standard costing do not mean anything.

A value stream is the sequence of activities from order receipt to shipment that is necessary to create the product to ship to the customer. Proponents of lean accounting (for example, Cunningham and Fiume, 2003; Kennedy and Brewer, 2005; Maskell and Baggaley, 2006; Searcy, 2009) argue that the accounting system should be based on the value streams as these are the profit centers. Profit is generated by improving flows, reducing inventory, and overheads through value streams. The costs recorded against the value streams are the direct costs that relate to each value stream. Corporate overheads are reported below the line, which can make it difficult to price products and identify product profitability due to the full product cost not being calculated (Kroll, 2004). However, market pricing can be used as a guide to pricing, and target costing (section 7.8) used to assist in the design of the product.

Reporting of the revenues and costs is done via an income statement for each value stream. The principle of simplifying the reporting of performance tries to make it more understandable for managers. Often, under systems of standard costing, some of the overhead variances were difficult for managers to understand and, more importantly, to know what to do in response to variances. Under lean accounting, a box score is created for each value stream, which can be produced weekly, monthly, quarterly, or at whatever frequency is desirable. The box score focuses on three elements — operating performance measures, capacity usage, and the income statement. It is designed to be a single page report. Table 6.18 shows an example based on versions suggested by Searcy (2009), Cunningham and Fiume (2003), and Maskell and Baggaley (2006).

The example incorporates several ideas but in practice would be drawn up with the aid of the managers that would use the report. Columns could simply show period comparisons; however, the example shows how it can be used as a motivational tool to encourage continuous improvement. The actual change column included would show the improvement since the last reporting period. Managers could use this information to identify the reasons for the change and strive to make continuous improvements in all areas. The financial measures do not include

a budget column for comparison as the principle is to improve continually on past performance. The revenue and costs directly reflect the activity of fulfilling customer orders. The capacity measure helps to manage the level of resources required to meet orders.

The capacity represents the total time available in the period. Non-productive time represents activities that do not add value such as changeovers, scrap or rework, downtime, maintenance, inspections, administration time, and so on. These could be reported in more detail as part of a “cost of quality report” discussed in section 6.8. The available capacity is 100% minus the productive and the non-productive time. It is considered normal to operate with available capacity at around 15-20%. This provides some flexibility to cope with sudden increases in demand, but the non-productive time should be kept to a minimum.

Table 6.18 – Box score for lean manufacturing

Box score for value stream A			
	Target improvement	Current state	Actual change
Operational measures			
Units (or Sales) per person			
Number of stock outs			
First time through (i.e., no rework required) %			
On-time shipments %			
Dock to dock days (order to shipment)			
Average cost per unit (or sale)			
Capacity measure			
Productivity %			
Non-productive time %			
Availability %			
Financial measures	Last period	This period	Change
Net revenue			
Material costs			
Employee costs			
Machine costs			
Utilities			
Facility – occupancy costs			
Shipment costs			
Total costs			
Value stream gross profit			
Gross profit %			
Inventory value			

Note that the income statement stops at a bottom line of gross profit as other corporate overheads are not part of the value stream but facilitate the operation of the whole organization. The objective is to charge only those costs that are causally related to the value stream, that is, those costs that are controllable by the managers concerned with the value stream. This format aids the ownership of the statement by the managers.

Supporters of lean accounting argue that a benefit of this style of accounting is that it encourages continuous improvement and better management of resources. Changes in the operations and reduction in inventory levels can be directly reflected in reporting statements and hence lead to better-informed decisions by managers who receive reports in a format that they can understand.

It does, however, require some changes to the accounting system. During the process of changing to lean accounting, reports can show some adverse positions, notably as inventory levels are reduced due to sales being satisfied from existing stock rather than being produced in real-time. This reporting can cause concern among managers but, if persevered with, the benefits can be seen to filter through as the manufacturing process becomes genuinely lean. Much of the information required for lean accounting is now collected via enterprise resource planning (ERP) systems used by many manufacturing companies.

Learning activity. Think about techniques such as customer profitability, activity-based costing, and lean accounting. Do you think there would be similar challenges involved in implementing these techniques? Are there any common factors between the techniques with which a traditional accounting system might find it difficult to cope?

6.8 Cost of quality

Active reading. Note the classifications of the costs of quality and think about the tangibility and intangibility of some of the elements. Also, think about the requirements for data collection of financial and nonfinancial data. Note the need for accountants to work with other professionals and the use of other related techniques, illustrating that accountants do not work in isolation, nor are the techniques used in isolation.



Video link [Costs of quality](https://www.youtube.com/watch?v=Ss9mlvIQbLo)

[<https://www.youtube.com/watch?v=Ss9mlvIQbLo>]

Control of quality is often a key element in a differentiation strategy, even though consumers expect a degree of quality in their low price purchases. Therefore, understanding the costs associated with quality is an essential aspect of the sustainability of the strategy. Quality has many different definitions, but perhaps the one best suited to the purpose of this learning

resource is that quality means “fitness for purpose,” that is, does the product or service do what it is supposed to do? It then means that even low-cost items are subject to the costs of quality.

In general terms, the costs of quality can be defined as all resources employed by an organization to assure quality standards (Bohan and Homey, 1991). Managing the costs of quality, however, is as much about improving customer satisfaction (Kiani et al., 2009) as it is about keeping costs low and improving the quality of products (Srivastava, 2008). It should embrace the whole organization and the value creation system, including business partners.

The costs of quality can be analyzed into four main categories (Feigenbaum, 1956).

- Prevention—expenditures incurred to keep quality defects from occurring. These are typically costs associated with activities such as training, supplier evaluation, and quality planning.
- Appraisal—costs incurred to identify and control if the products or services conform to the required specification. These are typically costs associated with the activities of inspection, quality control, supplier monitoring, and customer surveys.
- Internal failure—any costs incurred because of failures identified via the appraisal system before the delivery to the customer. These are typically costs associated with the activities of reworking, downtime, equipment failure, re-inspection, and testing.
- External failure—costs incurred to rectify quality defects after the product or service has been delivered or provided to the customer. These are typically warranty costs, product liability insurance schemes, and contribution lost from customers who do not return, or who do not consider the offering due to loss of corporate reputation.

These can be separated into conformity and nonconformity (Crosby, 1979), as shown in Table 6.19.

Table 6.19 Costs of conformity and costs of non-conformity

Cost of conformity	Cost of nonconformity
<ul style="list-style-type: none"> • Prevention costs • Appraisal costs 	<ul style="list-style-type: none"> • Internal failure costs • External failure costs

Most organizations will have some form of cost of conformity for which a budget, or target limit, can be prepared. Objectives can be set to reduce or keep the cost of conformity to a minimum. Ideally, if nothing ever went wrong, the cost of nonconformity should be zero. However, if things do go wrong, then there is a cost associated with the failure. Costs of rectification either before or after the customer receives the product or service will be incurred, and, in the case of external failure, it could result in loss of reputation and potential future sales. The cost, in this case, is the lost contribution on those sales. A key aspect of dealing with quality failures is to investigate the reason for the failure and to instigate changes so that it does not happen again.

Juran et al. (1975) highlight the intangible nature of some of the costs of quality, such as loss of goodwill and potential loss of future customers. Poor quality can also have an impact on employee morale, which can have a perpetuating effect on poor performance. As with motivation, it is not just a case of motivating employees to achieve excellent performance but also of ensuring that they have the skills, resources, and equipment needed to perform their job to high standards.

Tracking the costs of quality may not be easy in the first instance. As with ABC, there may be a need to develop the accounting systems to collect data in a form that is easily translated into meaningful reports for management. ABC can be a useful technique to employ in identifying and tracking the actual costs of activities associated with quality (Carolfu, 1996; Tsai, 1998; Maiga and Jacobs, 2008). The accountants and quality professionals in the organization need to work together (Mandal and Shah, 2002) to gain maximum benefit from tracking and reporting the cost of quality.

It is, however, not just a case of monitoring the costs but of understanding the costs of quality and making decisions about the potential trade-off between costs. This can impact on the market offering and benefits emphasized in the marketing strategy. For example, an organization may decide to reduce the number of inspections based on statistical analysis that historically, very few products are manufactured that are of poor quality. However, this increases the potential risk that a defective product could get through the process and into the hands of the customer. The policy could then be to replace the product immediately, free of charge, and without question. The customer focuses on the excellent customer service received rather than the fact that there was a problem. The organization can also make trade-offs in terms of training and inspection. If the investment in training is increased, in theory, the number of failures should be reduced, and the cost of failure should also be reduced or eliminated. In this way, accounting for the costs of quality is not just a monitoring activity but can form the basis of policy decisions and support the competitive strategy.

6.8.1 Costs of quality report

Active reading. Note the range of items included under each heading. Think about how each element could be controlled, the accuracy with which a target can be set, and the actual cost can be recorded.

A typical example of the costs of quality report is shown in Table 6.20.

Notice that quality planning and supplier evaluation are part of prevention, and customer surveys are part of the appraisal costs. The cost here is the administration cost associated with undertaking the activity. Also, note that the contribution lost from sales will be an estimated value as this is difficult to calculate with a high degree of accuracy. It is often associated with publicity around an event, such as product failure. In instances such as this, it may be possible to calculate the volume of sales lost, based on previous experience of sales growth, the difference between expected sales levels, and those achieved. Any shortfall may be due to adverse publicity around product failure. Reporting such figures helps to highlight

the significance of quality failures and can be used to galvanize the organization into improving the processes.

Table 6.20 A typical costs of quality report

	2020	2019	Change
	\$	\$	%
Prevention costs			
Training	16,000	15,000	7
Quality planning	5,000	5,200	-4
Supplier evaluation	2,000	3,000	-33
Other quality improvements	4,500	6,000	-25
Total prevention costs	27,500	29,200	-6
Appraisal costs			
Testing	50,000	51,500	-3
Inspection	40,000	42,000	-5
Supplier monitoring	10,000	11,000	-9
Customer surveys	12,000	10,000	20
Total appraisal costs	112,000	114,500	-2
Internal failure costs			
Rework and rejects	7,500	8,000	-6
Reinspection and testing	3,000	2,500	20
Equipment failure cost of repairs	1,500	1,500	0
Downtime	1,000	1,200	-17
Total internal failure costs	13,000	13,200	-2
External failure costs			
Product liability costs	75,000	75,000	0
Repairs under warranty	120,000	125,000	-4
Contribution foregone from lost sales	15,000	13,000	15
Total external failure costs	210,000	213,000	-1
Total cost of quality	362,500	369,900	-2

Learning activity: Think about a time when you were disappointed with a product you purchased or a service you experienced. How did it make you feel? How important do you think it is for an organization to have a strategy for dealing with customer complaints? How would this help reduce the potential intangible elements of external failures?

Concerning internal failures, there can be a detrimental effect on employee morale in cases where there are high failure rates and a high incidence of reworking involved. Poor employee morale has been shown to cause quality failures. What could the organization do to prevent the demotivation of employees and the lowering of employee morale? How would this be recorded within the costs of quality?

6.9 Summary

Management accounting can support the development and sustainability of competitive strategies in the following ways:

Appropriate accounting techniques

Ensuring that the appropriate accounting techniques and reporting enable management to control costs in support of the strategy adopted, whether it is based on one of cost leadership or differentiation.

Revisit Chapter 2 and the discussion of whether organizations that follow a strategy of differentiation are more likely to adopt strategic management accounting techniques than an organization that follows a strategy of cost leadership.

ABC

The adoption of ABC and TDABC to highlight activities where business processes could be improved to reduce costs or resources used to more significant effect.

Monitoring and reporting

Monitoring and reporting on the costs of quality to support the strategy adopted, particularly if the differentiation factor is based on high-quality products.

Sustainability of competitive strategy

Coupled with the environmental analysis evaluating whether the competitive strategy is viable in the long run. For example, if the market is becoming highly competitive and margins are being reduced due to downward pressure on prices, a cost-led strategy may not be viable in the long run if economies of scale cannot be maintained.

Evaluation of options

Assisting in the decision to pursue a strategic option by assessing the likely outcomes in financial terms based on the use of strategic tools. For example, evaluating competitive strategies to attract profitable customers (CPA), by developing new products for growing markets (portfolio analysis), given the changes in the environment and the current position relative to the key competitors. The accountant can use the analysis of several models and tools by converting them to the common language of financial numbers.

6.10 Review questions

- (1) Briefly outline the definition of the competitive strategies of cost leadership, differentiation, and focus.

- (2) Critically evaluate whether an organization following a strategy of differentiation is more likely to adopt the strategic management accounting techniques discussed in Chapter 4 and Chapter 6 than an organization following a strategy of cost leadership. (You could revise the discussion in section 2.5 to refresh your memory of the arguments from the research literature).
- (3) Critically evaluate activity-based costing as a method of calculating and controlling product costs.
- (4) In what circumstances would adopting TDABC be appropriate and discuss the key benefit claimed for its use.
- (5) Discuss the categories of the costs of quality, giving examples of each.
- (6) Discuss how management accounting can contribute to the selection and sustainability of the competitive strategy.

6.11 Case study activities 9 – 12 – HW Inc.

The following activities relate to the case study in Appendix A of this learning resource. You may need to refer to the information contained in the appendix to refresh your knowledge of HW Inc.

Case study activity 9 – HW Inc. Competitive strategies

The senior management team (C-suite) at HW Inc. is becoming concerned about the decline in profits of its business unit in Italy. They have asked the Managing Director of the Italian business to provide a full report outlining the reasons for the decline and a suggested strategy to improve HW's performance in the country for the next year.

While they were waiting for the formal report, the Finance Director at HW Head Office had reasons to contact the Managing Director of HW Italy about another matter but raised the issue of the declining profits. He made some notes during the conversation. One aspect that interested him is that the problem appeared to be focused on the Furniture and Interior Design section of the business.

The Managing Director was adamant that the electrical, clothing, and financial services parts of the business were all very profitable but that the furniture section has been hit hard by a new entrant to the market who was undercutting prices. An existing major competitor had responded by matching prices and increasing its marketing expenditure on furniture promotions. The furniture market in Italy had become intensely competitive in recent years as independent manufacturers and retailers had fought against the large chain stores gaining market share. The focus of competition in recent years has been on price. Italian consumers, although they were quite sophisticated in their tastes, were also prepared to shop around for the best deal.

There appeared to be different opinions within the local management team at HW Italy. The Marketing Director was suggesting that HW Italy should match the new entrant and the competitor move and promote furniture sales and reduce their prices to match. This proposal was based on the idea that the increased volume sales would generate the increased margin to pay for the advertising and increased overall profits and that the new entrant would be forced

out of business, restoring the market to the usual competitor companies again. The new competitor was selling a basic design of furniture marketed under the slogan, “Quality at low prices.” HW Italy was offering a wide range of furniture units of good quality with some leading brands, as well as the HW's own brand. Although HW offered a wide choice of product range, the difference was in style rather than the price, that is, units were of a similar price bracket and sales each year were reasonably consistent in terms of the mix of units sold.

The Operations Director felt that the production cost of the furniture was too high for them to compete and that they should reduce the inventory items of furniture and move the focus more towards clothing and electricals. The cost of the HW branded furniture that was manufactured in the HW U.K. factory and shipped to Italy had increased due to the fluctuating exchange rate against the Euro in recent months, and this would only reduce margins even more. Also, the cost of other branded furniture that was sold in the retail stores had increased from their suppliers.

The Interior Design services business, however, was good as they consistently made a net profit of 15% of sales revenue. The suggestion from the Operations Director was to reduce the number of furniture ranges offered for sale, perhaps limiting it to a small range of quality styles sold under the HW brand, and promote the Interior Design services. He illustrated his point by commenting that the manager of the Interior Design team had noticed a marked shift in kitchen design that customers were not only looking for a good deal but also looking for functionality with style.

He criticized the Marketing Director’s suggestion on the basis that it would reduce HW to a strategy of cost leadership, which would be bad for the image of the company, whereas differentiating on quality and service would enhance this part of the business, and give it an edge in the market. The manager of the Interior Design team is confident that they could increase their sales of design services if they were able to offer a product range that fitted more neatly into the functionality with style category.

The Managing Director said the management team was preparing a detailed report and that they would forward this as soon as they were able.

During the conversation, the Managing Director had read out some figures relating to the kitchen units sold and the Interior Design business generated from kitchens, which the Finance Director of HW head office had jotted down. He has provided the information above, and the figures are shown in Table 6.21. He has asked you for an initial opinion on the implications of the two suggestions.

Table 6.21 Indicative figures from the kitchen section

Year	Total number of Kitchen Units sold	Sales Value of Kitchen Units	Interior Design Sales revenue generated from Kitchen design	Operating profit generated from Kitchen Units and Design together
		€m	€m	€m
2018	2,050	922,500	650,000	162,000
2019	2,700	1,080,000	600,000	144,000
2020	3,600	1,260,000	550,000	107,500

Note: Profit from Interior Design services usually is 15% of the sales value generated from Design. The Interior Design services part of the business is not restricted to selling HW branded goods but can select any kitchenware products from the range of manufacturers that HW stocks.

All the kitchen units are of a similar size – the design aspect comes from selecting appropriate units that are joined to create the desired kitchen, for example, base units, corner units, wall units.

Activity requirement:

- (a) Using the numerical information provided in Table 6.20, investigate whether a strategy of cost leadership is a viable option for HW Italy.
- (b) Based on what you know about HW Inc. and the information provided by the Finance Director recommend, with justification, a suitable competitive strategy that HW Italy could adopt. Also, highlight any additional information or analysis that you think should be undertaken before a final decision is made.

Case study activity 10 - ABC factory-made picnic tables

The furniture factory based in the U.K. has traditionally used a single rate of overhead recovery based on the number of units it has produced. The head office finance department has requested that they review whether they should adopt activity-based costing. They have ascertained the following information about two of their most popular ranges of a picnic table. They are planning to use this as an illustration of the benefits of ABC. The factory ‘sells’ the products it manufactures to the retail store division and usually adds a mark-up of 25% to the furniture products it makes. The accounting team has provided the information shown in Table 6.22.

Table 6.22 Basic data on picnic tables (figures provided in \$)

Product	Alpha range	Beta range
Output in units	12,000	14,000
Costs/cost drivers		
Direct materials in total	\$240,000	\$350,000
Direct labor in total	\$168,000	\$147,000
Total machine hours	2,100	2,400
Orders executed	150	110
Number of production runs	90	40
Number of shipments	50	15
Number of product returns from retail stores or regional depots	90	40

The production overhead is currently absorbed by using units, and the total of the production overhead for the period has been analyzed as shown in Table 6.23

Table 6.23 Analysis of production overhead related to picnic tables product

Activity pools	Annual costs \$	Cost driver
Production overheads	180,000	Machine hours
Material handling	78,000	Orders executed
Quality enhancing and inspection	130,000	Number of production runs
Delivery	26,000	Number of shipments
Production return management	15,000	Number of returns
Total	429,000	

Activity requirement:

- (a) Calculate the selling price based on the current traditional method and using the ABC approach.
- (b) How does this aid the decision making of HW’s management team?

Case study activity 11 - TDABC and call centers

HW Inc. sells many product lines within its stores and prides itself on customer service. Product lines are looked after by product line managers. Typically, a product manager will take responsibility for liaison with everything about that product line or product group within the stores. They operate on a national basis, that is, a manager is responsible for a product group within all stores in the U.K. A product group could be health and fitness products, audio-visual products, kitchen products, lighting products, and so on. For small product groups, a manager might look after more than one group.

HW Inc. currently operates a central service call center that deals with customer calls for information and complaints. The costs of the call center are presently allocated based on 10% of the sales value of the product groups.

The manager of product Y is upset because he has just received a report, Table 6.24, showing the following information relating to the year 2020.

Table 6.24 Information for product group X and Y

	Product group X	Product group Y
Number of calls for information	5,000	2,000
Average length of call for information	10 minutes	6 minutes
Number of calls registering complaints	1,500	300
Average length of complaint calls	12 minutes	6 minutes
Sales volume	\$200,000	\$800,000

Product group Y contains products that are simple to use, and consumers have little concern about adverse health effects. Product group X includes products that are more complex to use and have quite a few health hazard warnings on their labels and in their instructions for use. The manager of product group Y argues that the current system is unfair as it does not trace call center usage direct to products. For example, product group Y bears four times the cost of group X, although group Y has far fewer calls associated with it and consumes less time.

- (a) What activity cost driver would you recommend to improve the current system of assigning call center costs to product groups? Why is your method an improvement?
- (b) Suppose that HW Inc. decides to allocate costs using an activity-based method and chooses the basis of minutes of calls as the activity cost driver. Suppose the average cost of handling a call is \$1 per minute. Compare the costs incurred by product group X and Y under the new system and the old.
- (c) What actions can the product managers take to reduce the number of calls received by the call center? What might other functional areas of the business do to help reduce the number of calls per product?
- (d) Who might resist the implementation of the new activity-based cost system?
- (e) From HW Inc.'s point of view, how might the ABC system and the value creation system help in the assessment of whether to outsource the call center activities?

Case study activity 12 – HW Inc. Cost of quality

Furniture from HW Inc. Guildford store

The following letter was red-flagged and created a major alert at the HW local retail store and the management team of HW UK, who is demanding an immediate investigation into what went wrong and what was going to be done to stop it happening again.

Dear Sirs,

In December, I purchased a new house ready to begin working at my new job in Nottingham in January.

On the last Saturday in December, I decided to go shopping at one of your stores in the town where I currently live in Guildford, Surrey. I decided I would need a new dining table and chairs, sofa and armchair, as my current furniture had seen better days.

I arrived in the furnishings department in your Guildford store at 9:10 a.m. to beat the rush. I wondered around the department sitting on chairs, sitting on chairs at various dining room tables, sitting on sofas and armchairs, and looking through material sample books for 20 minutes before deciding to go off in search of an assistant. At the 'Pay Here' desk, I found someone and asked if anyone was available to help in the furnishings department.

‘I could find someone for you,’ the assistant replied with a degree of reluctance.

Someone was found – a person I had previously seen walking through the department several times. They very kindly offered to help and began to take my order. It took about 15 minutes to place the order on the computer system, which included several aborted attempts to find the order code for the items I required. I was left feeling not hugely confident that the goods I was purchasing had been processed correctly. I was informed that all the furniture had to be made to order and would take about six weeks to arrive.

When it came to paying, I had to go to the pay desk. A different assistant asked if I had an HW Inc. credit card, as this would allow me a 10% discount. I replied No, so I was persuaded to apply for an HW Inc. credit card to benefit from the discount. The application was processed at the till, credit check performed, and card granted. It took about 10 minutes as a manager had to be found to authorize the application. As the order for the sofa and armchair, and dining table and chairs came to more than \$1,000 – the limit allowed on a new card application, I was told I could put \$1,000 on the new card, which I duly did, and used my HSBC card to pay the balance – they very kindly allowed the 10% discount on the entire purchase. I was also persuaded to take out insurance offered with HW Inc.'s credit card costing \$3 to protect the purchase. It was then automatically added to the HW Inc. credit card bill.

Two weeks later I received a telephone call saying that the supplier of the sofa had a problem with their supplier of cloth, and it would take another three weeks for the furniture to be made. I would be contacted when it was ready.

One week later, I received a letter from the legal department of Visa Card Services. They apparently manage the credit card for HW Inc., telling me that the card was overextended by \$3 and unless this was cleared immediately, it would be stopped and legal action taken to recover the debt. The letter also informed me that the account would be charged with \$15 for the administration costs. As the insurance had been charged to the credit card automatically, the total charged to the card was \$1,003. It seems to me to be unreasonable as it was an error on the part of the store employee. I have written to Visa Card Services explaining the situation and have paid the \$1,000 and suggested any additional charges be reclaimed from HW Inc. I have also asked Visa Card Services to cancel the card with immediate effect.

I also received a letter saying that my dining room table and chairs would be delivered on 21st January. There was a contact phone number to use if the date were inconvenient; if however, no communication was received, it would be assumed that the date was acceptable. I telephoned to arrange a more convenient date.

When the dining room table and chairs were delivered, the chairs were of a slatted back version, and not leather-backed, as had been ordered. The delivery staff were unhelpful, commenting that they had never delivered any leather-backed chairs with that style of table before and did not think that the company sold them. They did, however, leave the incorrect chairs so that I could sit down and suggested that I contact their administration office.

I contacted HW Inc., who said that the supplier was at fault and gave me a number to contact the supplier. I contacted the supplier and was told that the wrong chairs had been loaded on the van - I would be contacted with another delivery date. After two days, I contacted them again and spoke to a different person, and this time I was told the chairs were being made for me.

Four weeks later I received a letter saying that the chairs would be delivered on 3rd March. I telephoned again to say that the date was inconvenient – ‘Thank you – I will cancel the delivery,’ the girl answered and put the phone down. I wrote to you to lodge a complaint stating that if they were not delivered before the end of March, I would cancel the order, demand the return of the money, and purchase chairs from another source. No response was received. But I did receive another letter with another delivery date for 24th March – I rearranged work to enable me to be at home when they arrived. The chairs were delivered on that date, and the delivery staff kindly took away the incorrect chairs and left the new ones in their place.

On 16th March, I was contacted by HW Inc. to say that the sofa and the armchair were ready and that a delivery date could be arranged. You were unable to deliver them on 24th March, when I had arranged to take a day off work to take delivery of the dining chairs, but a date was arranged for April.

When the sofa and chairs were delivered in April (I had taken another day off work so that I was at home when they were delivered), the chairs were fine, but there was a snag on the sofa, which was very visible as it was on top of the backrest. The delivery driver noted this and advised that they would leave the sofa but that I should contact the administration office to see what they could do about replacing the sofa.

As the delivery van was driving away, and I was picking up the phone to contact the administration office, I noticed that there was also a mark on one of the seat covers that looked like oil. I pointed this out when I was in contact with the office. The lady from the office was very apologetic, and I was told that the sofa would be replaced. However, the next day I was told that the headrest element could be replaced but that I would have to pay for the seat cover, as this was not recorded on the delivery document as being at fault.

I would now like my money back for the sofa and matching chair, and you can collect the sofa and chair at your earliest convenience.

I look forward to hearing from you and thank you in advance for your kind assistance in this matter.

Yours faithfully

V. Annoyed Esq.

Required

- (a) What are the problems or failures in the above scenario, and how could they be overcome?
- (b) What are the costs for the company associated with the scenario outlined above?

6.12 References

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