eating saw them banned in schools; a vending machine is the ultimate barrier to entry.

Overall, though, the Coca-Cola approach to distribution set out in 1950 is what most companies still try to do today.

Questions (30 marks; 35 minutes)

1 What is meant by the term 'distribution'? (2)

2 Explain how a vending machine can be a 'barrier to entry' to new competitors. (4)

3 Explain what the text means by the difference between 'maximum availability' and 'maximum visibility'. (4)

4 From all that you know about today's Coke, Diet Coke and Coke Zero, evaluate whether Coca-Cola's distribution strategy was the single most important factor in the firm's marketing success. (20)

Extended writing

1 Evaluate the proposition that 'internet retailing will mean the death of the high street'. (20)

2 You have just developed a new console game that combines the appeal of Candy Crush with the force of Call of Duty. Evaluate how to achieve strong enough distribution to make this product a hit in the UK. (20)

14 Product life cycle and portfolio

Definition

The product life cycle is the theory that all products follow a similar pattern over time, of development, birth, growth, maturity and decline. The product portfolio places brands into a matrix based on market share and market growth.

Linked to: Market research, Ch 3; Pricing strategies, Ch 12; The market, Ch 2; Capacity utilisation, Ch 42.

14.1 What is the product life cycle?

The product life cycle shows the sales of a product over time. When a new product is first launched, sales will usually be slow. This is because the product is not yet known or proven in the market. Retailers may be reluctant to stock the product because it means giving up valuable shelf space to products that may or may not sell. Customers may also be hesitant, waiting until someone else has tried it before they purchase it themselves.

If the product does succeed, then it enters the growth phase of the product life cycle, with new customers buying and existing customers making repeat purchases. However, at some point sales are likely to stabilise; this is known as the maturity phase. This slowing down of the growth of sales might be because competitors have introduced similar products or because the market has now become saturated. Everyone who wants one has bought one, so sales fall back to replacement purchases only.

At some point sales are likely to decline, perhaps because customer tastes have become more sophisticated. So orange squash sales decline as people buy more fresh orange juice. A decline in sales may also be because competitors have launched a more successful model or the original creator has improved its own product; for example, the iPad drawing sales from the iPhone.

The five key stages of a product's life cycle are known as: development, introduction, growth, maturity and decline. These can be illustrated on a product life cycle diagram. The typical stages in a product's life are shown in Figure 14.1.

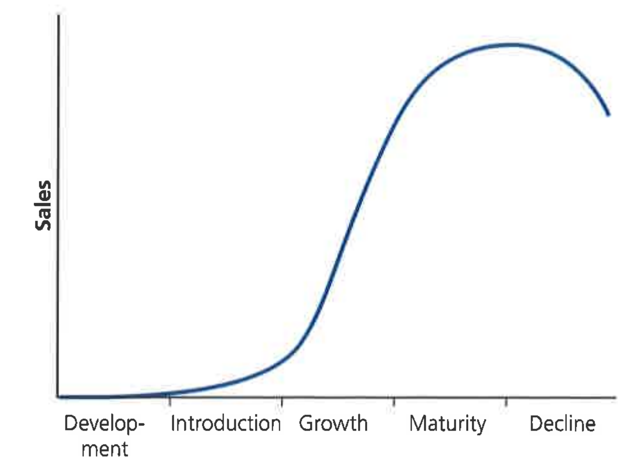

Figure 14.1 The product life cycle

14.2 What is the value of the product life cycle?

The product life cycle model helps managers to plan their marketing activities. Marketing managers will need to adjust their marketing mix at different stages of the product life cycle, as outlined below.

- In the introduction phase, the promotion may focus on making customers aware that a new product exists; in the maturity phase, it may focus more on highlighting the difference between your product and competitors that have arrived since its introduction.
- At the beginning of the life cycle, a technologically advanced product may be launched with a high price (think of the iPhone); over time the price may fall as

newer models are being launched. By considering the requirements of each stage of the life cycle, marketing managers may adjust their marketing activities accordingly.

Managers know that the length of the phases of the life cycle cannot easily be predicted. They will vary from one product to another and this means the marketing mix will need to be altered at different times. For example, a product may be a fad and therefore the overall life of the product will be quite short. Many fashions are popular only for one season and some films are popular only for a matter of weeks. Other products have very long life cycles. The first manufactured cigarettes went on sale in Britain in 1873. By chance, sales hit their peak (120 billion) exactly 100 years later. Since 1973 sales have gently declined.

It is also important to distinguish between the life cycle of a product category and the life cycle of a particular brand. Sales of wine are growing, but a brand that was once the biggest seller (Hirondelle) has virtually disappeared as wine buyers have become more sophisticated. Similarly, confectionery is a mature market but particular brands are at different stages in their life cycles: Mars bars are in maturity while Maltesers are in the growth stage, even though the brand is 80 years old!

14.3 Extension strategies

The aim of an **extension strategy** is to prevent a decline in the product's sales in the medium-to-long term. The two main variables for basing a new extension strategy are the product itself and the way it is promoted.

	Development	Introduction	Growth	Maturity	Decline
Sales	Zero	Low	Increasing	Growth is slowing	Falling
Costs per unit	High investment in product development but only a few prototypes and test products being produced	High; sales are relatively low but launch costs are high and overheads are spread over very few units	Falling as overheads are spread over more units	Falling as sales are still growing	Low as development costs have been covered and promotional costs are being cut
Product	Prototypes	Likely to be basic	May be modified given initial customer feedback; range may be increased	Depends – may focus on core products and remove poor sellers; may extend brand to new items	Focus on most profitable items
Promotion	As development is nearly finished it may be used to alert customers of the launch	Mainly to raise awareness	Building loyalty	May focus on highlighting the differences with competitors' products	Probably no spending at all
Distribution	Early discussions with retailers will help in finalising the product packaging	May be limited as distributors wait to see customers' reactions	Increasing as more distributors willing to stock and product is rolled out to more markets	May focus on key outlets and more profitable channels	Lower budgets to keep costs down
Price	Not needed	Depends on pricing approach, e.g. high if skimming is adopted; low if penetration is adopted to gain market share	Depends on demand conditions and strategy; e.g. with a skimming strategy, the price may now be lowered to target more segments	May have to drop to maintain competitiveness	Likely to discount to maintain sales

Table 14.1 Examples of how the marketing mix may vary at different stages of the product life cycle

Product

Over the years, detergents such as Persil have had innumerable 'New Improved!' formulations and relaunches. In the past, these offered 'Whiter than ever!' washes, though more recently the trend has been for smaller pack sizes (more concentrated) or presenting the product in tablet rather than loose form. The point is to incorporate new product technology and therefore fight off new brand challengers.

Successful product-based extension strategies include:

- McDonald's, in 2007, relaunching itself with different design (greens rather than red) and a menu featuring more salads, more fruit and coming clean about calories per item
- Innocent Drinks, facing falling sales for their smoothies in 2013/2014, launching 'Super Smoothies' with product claims about their health-giving properties
- Maltesers, stretching the brand by launching Malteaster bunnies and Teasers chocolate bars.

Promotion

Simply running a new advertising campaign or switching from traditional to social media does not comprise an extension strategy. Something more substantial and long term is required. Good examples include the following:

- By targeting a new segment of the market: when sales of Johnson & Johnson's baby powder matured, the company repositioned the product towards adults; sales boomed.
- By developing new uses for the product: the basic technology in hot-air paint strippers, for example, is no different from that in a hairdryer.
- By increasing the usage of a product: Actimel's 'challenge' was for consumers to eat one pot a day for a fortnight – a wonderful way to encourage increased consumption.

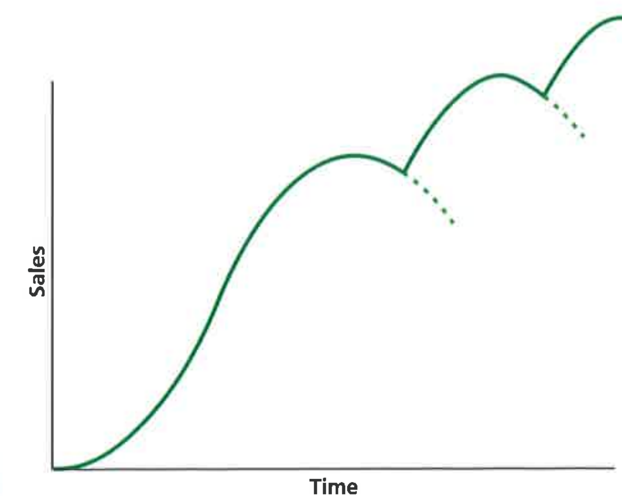

Figure 14.2 The effect of extension strategies

The continued success of products such as Coca-Cola and Kellogg's cornflakes is not just due to luck; it is down to sophisticated marketing techniques that have managed to maintain sales over many years despite fierce competition. The Kellogg's logo is regularly updated, new pack sizes are often introduced, and various competitions and offers are used on a regular basis to keep sales high.

Given the fact that developing a product can involve high costs and that there is a high failure rate of new products, it is not surprising that, if a product is successful, managers will try to prolong its sales for as long as it is profitable. Who would have thought, in the 1880s, that a frothy drink would still be a huge seller more than 125 years later? Clever Coke.

14.4 New product development (NPD)

New product development includes the people and processes involved in turning new ideas into products (or services) ready for launch. It is likely to involve research and development (R&D), market research, product engineering and design, plus expertise in packaging, advertising, pricing and branding. It represents all the activities categorised as 'development' in the product life cycle. Some examples of NPD are so excellent (think iPhone, the PS4 or Snapchat) that their life cycles have a remarkably easy start.

Unfortunately, even consumer giants such as Cadbury and PepsiCo have poor success rates with new product launches. The statistics are hard to find, but it seems that fewer than one in five new products becomes a commercial success. Clearly there must be many reasons why it is hard to create a successful new product, though the single most important is the cautious consumer who would rather buy a trusted product than a new one.

Key influences on successful NPD include:

- a clear understanding of the consumers within a certain market segment, with a special focus on their future needs or wants
- the creativity to be able to see how an everyday problem or issue can be solved innovatively
- enough resources (money and manpower) to be able to develop an idea effectively and market it persuasively.

When a new product succeeds, the consequences can be transformational. Nintendo's Wii U was looking down and out before the launch of Mario Kart 8 saw sales of the hardware rise by 600 per cent in June 2014. So the value of NPD cannot be doubted. A successful new

product can create its own new life cycle – giving an entire business a morale and profit boost.

Real business

Nine out of ten fail

In July 2014, the chief executive of US marketing consultancy 'Dine' was interviewed about the causes of new product launch failures. He said that, in America, the failure rate among new food products is nine out of ten. He blamed three main causes:

- undercapitalised launches, i.e. good idea, but an underfunded marketing campaign
- 'customer insight is slightly off', e.g. launched too early or too late, or slightly wrong market positioning
- overly innovative idea (he cited bubble-gum flavoured milk) where the producer is pursuing disruptive innovation when incremental innovation would be superior.

14.5 The product portfolio

Product **portfolio analysis** examines the existing position of a firm's products. This allows the firm to consider its existing position and plan what to do next. There are several different methods of portfolio analysis. One of the best known was developed by the Boston Consulting Group, a management consultancy; it is known as the Boston Matrix.

The Boston Matrix shows the market share of each of the firm's products and the rate of growth of the markets in which they operate. By highlighting the position of each product in terms of market share and market growth, a business can analyse its existing situation and decide what to do next and where to direct its marketing efforts. This model has four categories, as described in Figure 14.3.

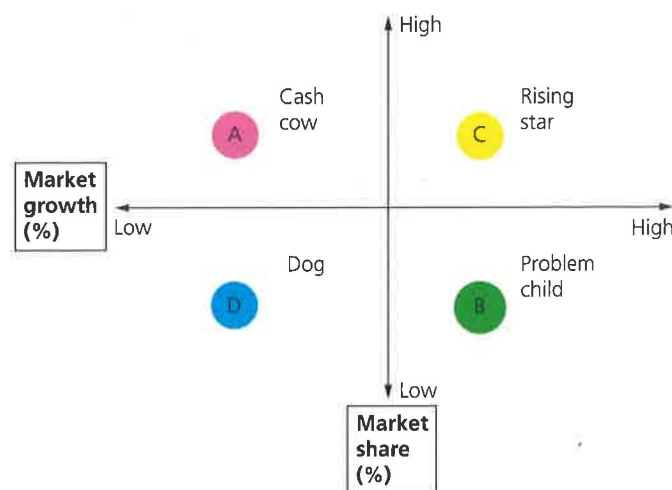

Figure 14.3 Product portfolio: the Boston Matrix

Cash cow: a high share of a slow-growing market

In Figure 14.3, product A has a high market share of a low-growth market. The size of the circle depends on the turnover of the product. This type of product is known as a **cash cow**. An example of a cash cow might be Heinz Baked Beans. The overall market for baked beans is mature and therefore slow growing. Within this market, the Heinz brand has a market share of more than 50 per cent. This type of product generates high profits and cash for the company because sales are relatively high, while the promotional cost per unit is quite low. Heinz can therefore 'milk' cash from baked beans to invest in newer products, such as Heinz Organic Ketchup.

Problem child: a low share of a fast-growing market

Product B, by comparison, is in a high-growth market but has a low market share. This type of product is known as a **problem child** (also called a 'question mark'). A problem child may well provide high profits in the future; the market itself is attractive because it is growing fast and the product could provide high returns if it manages to gain a greater market share. However, the success of such products is by no means certain and that is why they are like problem children: they may grow and prosper or things may go wrong. These products usually need a relatively high level of investment to promote them, get them distributed and keep them going.

Rising star: a high share of a growing market

Rising stars such as product C have a high market share and are selling in a fast-growing market. These products are obviously attractive; they are doing well in a successful market. However, they may well need protecting from competitors' products. Once again, the profits of the cash cows can be used to keep the sales growing. Heinz Organic Soups are in this category. They are very successful, with fast-growing sales, but still need heavy promotion to ensure their success.

Dogs: a low share of a stable or declining market

The fourth category of products is known as **dogs**. These products (like product D in Figure 14.3) have a low share of a low-growth market. They hold little appeal for a firm unless they can be revived. The product or brand will be killed off once its sales slip below the break-even point.

The purpose of product portfolio analysis

Product portfolio analysis aims to examine the existing position of the firm's products. Once this has been done, the managers can plan what to do next. Typically, this will involve four strategies.

1. Building: this involves investment in promotion and distribution to boost sales and is often used with problem children (question marks).
2. Holding: this involves marketing spending to maintain sales and is used with rising star products.
3. Milking: this means taking whatever profits you can without much more new investment and is often used with cash cow products.
4. Divesting: this involves selling off the product and is common with dogs or problem children.

The various strategies chosen will depend on the firm's portfolio of products. If most of the firm's products are cash cows, for example, it needs to develop new products for future growth. If, however, the majority are problem children, then it is in quite a high-risk situation; it needs to try to ensure some products do become stars. If it has too many dogs, then it needs to invest in product development or acquire new brands.

Five whys and a how

Questions	Answers
Why does growth slide back towards maturity?	Market saturation is one reason (everyone who wants the product has already bought it); the arrival of competition is another.
Why do many extension strategies fail?	Because the business has failed to find a new market position for a new type of customer.
Why do new product launches have such a low success rate?	Because many consumers are locked into patterns of repeat behaviour, such as always buying Cadbury Dairy Milk.
Why may firms struggle to manage their cash flow when their products have short life cycles?	Short life cycles imply a constant need to invest heavily in NPD to develop the next winner to take over from today's fading products.
Why do firms find it useful to use both product life cycle and portfolio analysis?	Because product life cycle helps analyse the progress of a single product, while portfolio analysis looks at all of a firm's products.
How does R&D differ from market research?	R&D is about scientific research and technical development of products or processes; market research is about consumer habits and tastes.

14.6 Product life cycle and portfolio – evaluation

The product life cycle model and portfolio analysis are important in assessing the firm's current position within the market. They make up an important step in the planning process. However, simply gathering data does not in itself guarantee success. A manager has to interpret the information effectively and then make the right decision. The models show where a business is at the moment; the difficult decisions relate to where the business will be in the future.

Product portfolio analysis is especially useful for larger businesses with many products. It helps a manager to look critically at the firm's product range. Then decisions can be made on how the firm's marketing spending should be divided up between different products. By contrast, the product life cycle is of more help to a small firm with one or two products.

Key terms

Cash cow: a product that has a high share of a low-growth market.

Dog: a product that has a low share of a low-growth market.

Extension strategy: marketing activities used to prevent sales from declining.

Portfolio analysis: an analysis of the market position of the firm's existing products; it is used as part of the marketing planning process.

Problem child: a product that has a small share of a fast-growing market.

Rising star: a product that has a high share of a fast-growing market.

14.7 Workbook

Revision questions

(40 marks; 40 minutes)

1 Identify the different stages of the product life cycle. Give an example of one product or service you consider to be at each stage of the life cycle. (4)
2 Explain what is meant by an 'extension strategy'. (4)
3 'Without new product development every business must die.' Is this true? (6)
4 How is it possible for products such as Barbie to apparently defy the decline phase of the product cycle? (7)
5 What is meant by 'product portfolio analysis'? (3)
6 Distinguish between a cash cow and a rising star in the Boston Matrix. (4)
7 Explain how the Boston Matrix could be used by a business such as Cadbury. (5)
8 Firms should never take decline (or growth) for granted. Therefore, they should never take success (or failure) for granted. Explain why this advice is important if firms are to make the best use of product life cycle theory. (7)

Data response

Monster life cycle

The market for energy drinks is dominated by Red Bull. First launched in 1987, its UK sales have grown steadily to reach £248 million in 2013. With the market for energy drinks still rising at 10–15 per cent per year, many other companies are determined to take their share of this success. The attractions are obvious. Not only are sales rising faster than for soft drinks as a whole, but the price per litre is much higher. On 30 December 2013, Tesco charged 49p for a 330ml can of Coca-Cola and £1.58 for 330ml can of Red Bull.

As Coca-Cola observed the growth of Red Bull during the 'noughties', it resolved to launch its own rivals. First came 'Relentless' in late 2006, which received its first serious promotional push by being given away at the 2007 Reading and Leeds Music Festivals. Since then, it has focused on sponsoring 'extreme' sports. As shown in Figure 14.4, Relentless has achieved significant sales, though sales fell by £5 million between 2011 and 2013.

Perhaps sensing that Relentless was not the answer, in 2010 Coca-Cola took over the distribution of a US energy drink called Monster. The brand holds a 35 per cent share of the $30 billion US market for energy drinks, though there have been questions raised in Congress about the safety of the product. Energy drinks are heavy in three ingredients: caffeine, taurine and sugar. In fact, the caffeine level is no higher than in coffee, but the combination of ingredients is thought by some to place it in between alcoholic and soft drinks.

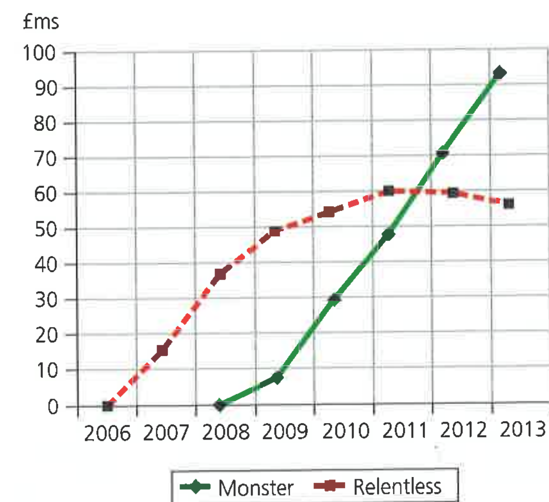

Figure 14.4 Energy drink life cycles

Is Monster a real challenger to Red Bull in the UK? With a sales increase of 30 per cent in 2013 compared with 6 per cent for Red Bull, Coca-Cola can hope. But the risk must remain that the Monster life cycle will end up following that of Relentless. Time will tell.

Questions (25 marks; 30 minutes)

1 Briefly explain the meaning of the term product life cycle. (3)
2 Give the stage of the product life cycle for each of the following in 2013:
a) Relentless
b) Monster. (2)
3 Assess two possible extension strategies Coca-Cola might use with Relentless in coming years. (8)
4 Assess the factors that will influence the future life cycle of Monster in the UK. (12)

Extended writing

1 After many decades of success in the UK, breakfast cereal manufacturers are suffering from a decline in the market size as consumers want to eat breakfast on the move instead of in the kitchen. Evaluate a suitable extension strategy for a cereal producer such as Kellogg's. (20)
2 Cadbury has a wide range of chocolate brands including Dairy Milk, Flake, Crunchie, Twirl and Fudge. It wishes to push its UK market share from 34 per cent to 38 per cent within the next two years. Evaluate the extent to which the Boston Matrix might help in achieving this goal. (20)