Chapter 15

Strategic marketing planning tools

LEARNING OBJECTIVES

After reading this chapter you will:

- appreciate the evolution and uses of strategic marketing planning tools
- understand how these tools have become increasingly sophisticated and complex
- be familiar with the applications and limitations of the most frequently used strategic marketing planning tools
- appreciate the ways in which our knowledge of these tools of planning is constantly evolving and improving

INTRODUCTION

In Chapter 4 we examined issues relating to the actual product or service and discussed the basic theories of product life cycle and how this can be applied strategically. We also looked at new product development and specifically examined issues related to service marketing and the notion of the three Ps (people, process and physical evidence).

The chapter also detailed work by Booz, Allen and Hamilton in terms of developing and launching new products. Finally, the chapter concluded with a discussion and explanation of the work of Everett Rogers and the notion of the diffusion of innovations.

In this chapter we take the discussion to a more strategic level in terms of examining the notion of **'portfolio analysis'** along with other marketing planning tools. These tools allow us to more scientifically plan marketing strategy, and the first of the ideas that we examine relates to what is regarded as the classic work of Michael Porter.

PORTER'S MODEL OF INDUSTRY/MARKET EVOLUTION

Porter[1] distinguishes between the following three broad stages in the evolution of an industry/market:

- emerging industry;
- transition to maturity;
- decline.

Each of these stages has its own particular characteristics, some of the more important of which are shown for each stage.

Emerging industry:

uncertainty among buyers over:

product performance;
potential applications;
likelihood of obsolescence.

uncertainty among sellers over:

customer needs;
demand levels;
technological developments.

Transition to maturity

falling industry profits;
slowdown in growth;
customers knowledgeable about products and competitive offerings;
less product innovation;
competition in non-product aspects.

Decline

competition from substitutes;
changing customer needs;
demographic and other macro-environmental forces and factors affecting markets.

Porter then uses the characteristics of each stage to suggest the following strategies as being appropriate to each:

Emerging industry:

Strategies developed to take account of industry competitive structure characteristics i.e.:

- threat of entry;
- rivalry among competitors;
- pressure of substitutes;
- bargaining power of buyers and suppliers.

Transition to maturity:

Strategies focused on:

- developing new market segments;
- focusing strategies for specific segments;
- more efficient organizations.

Decline

- seek pockets of enduring demand;

or

- divest.

	Stage of industry development		
	Growth	**Maturity**	**Decline**
Leader	• Keep ahead of the field	• Cost leadership • Raise barriers • Deter competitors	• Redefine scope • Divest peripherals • Encourage departures
Follower	• Imitation at lower cost	• Differentiation • Focus	• Differentiation • New opportunities

FIGURE 15.1 Industry life cycle and strategic position

Source: Porter, M.E. (1995), *Competitive Advantage: Creating and Sustaining Superior Performance*, New York: Free Press, p. 192.

Clearly this approach is similar to the conventional concept of product life cycle analysis in identifying the stage, specifying the characteristics of each stage, and suggesting appropriate strategies for the stages. Porter has developed the notion of industry life cycle further by linking it to the 'strategic position' of the individual organization. Strategic position is categorized in terms of whether the individual organization is a leader or a follower. This approach is shown in Figure 15.1.

Genetic engineering and biotechnology are examples of what Porter would classify as 'emerging' industries. At the moment in these industries there is substantial jockeying for position amongst the incumbents. Some organizations, however, are already emerging as leaders. For example, in genetic engineering, particularly in the area of food production, Monsanto is probably ahead of the field.

A good example of an industry in Porter's stage of 'transition to maturity' is the market for cars in the West, which has seen companies such as Mercedes and Volkswagen paying more attention to developing new market segments.

It is not difficult to find examples of industries in Porter's 'decline' stage. The textile industry in the UK is probably a good example of this. Coates Viyella, a once major employer in the UK textile industry has recently pursued strategies of divestment while at the same time seeking pockets of enduring demand – just as Porter suggests.

ARTHUR D. LITTLE'S INDUSTRY MATURITY/ COMPETITIVE POSITION MATRIX

A similar approach to that developed by Porter is that used by the business consultants, Arthur D. Little.[2] A summary of this approach is shown in Figure 15.2. The two axes of the matrix comprise 'stage of industry maturity' on the horizontal axis and 'competitive position' on the vertical axis. Stage of industry maturity is broken into four categories: embryonic, growth, maturity and ageing. A classification of which of these four the industry is in, is determined by assessing eight key descriptions:

Company's competitive position	Stage of industry maturity			
	Embryonic	Growth	Maturity	Ageing
Dominant				
Strong				
Favourable				
Tentative				
Weak				

FIGURE 15.2 The A.D. Little competitive position/industry maturity matrix

- rate of market growth;
- industry potential;
- product line;
- number of competitors;
- market share stability;
- purchasing patterns;
- ease of entry;
- technology.

A 'mature' industry, for instance, is characterized by slow or negligible rates of growth; little or no further growth potential; few changes in breadth of product line; stable or declining numbers of competitors; stable market share positions; established buying patterns; high barriers to entry; and process and materials innovations in technology.

In both Porter's and the Arthur D. Little approach we see a strong flavour of their intellectual forebear, the basic product life cycle. This, in itself, is a measure of the enduring impact which the PLC concept continues to have in strategic market planning.

We now turn our attention to another early tool of strategic marketing planning, namely, the 'experience curve' effect.

THE EXPERIENCE CURVE EFFECT IN STRATEGIC MARKETING PLANNING

In 1925, the commander of the Wright Patterson Air Force Base in the USA observed that the number of direct labour hours required to build an aeroplane decreased as the number of aircraft previously assembled increased. Eventually this phenomenon was explored across a wide range of industries and was found to be present in most of them. The phenomenon came to be termed the '**experience curve**'. It has significant implications for the determination of marketing objectives and strategy.

Basis and definition

The basis and meaning of the experience curve effect are relatively easy to understand, and are encapsulated in the name of the phenomenon itself. Put simply, experience curve effects are derived from the fact that the more times we repeat an activity, the more proficient we become: in other words 'practice makes perfect'. In the case of the Wright Patterson Air Force Base, the commander noticed that this led to a reduction in the time it took to assemble an aircraft as cumulative production increased. The assembly workers simply became more adept at assembling an aircraft because over time they had assembled increasing numbers.

In the 1960s, the Boston Consulting Group,[3] whose work we look at in more detail later in this chapter, observed that the experience curve effect was not confined to assembly operations, or even simply to direct labour costs, but encompassed almost all cost areas of a business.

> The experience curve effect is observed to encompass all costs – capital, administrative, research and marketing – and to have transferred impact from technological displacements and product evolution.
>
> (Boston Consulting Group: 1970)

Furthermore, not only was the experience curve effect found to encompass more than just production, even more importantly, the effect was found to be predictable (Abell and Hammond).[4]

> Personnel from the Boston Consulting Group and others showed that each time cumulative volume of a product doubled, total value-added costs . . . fell by a constant and predictable percentage.
>
> (Abell and Hammond: 1986)

It is this predictable relationship between costs and experience that constitutes the experience curve effect.

Specific sources of experience curve effects

We have observed that experience curve effects are based on the old adage 'practice makes perfect'. We can now isolate five specific major sources:

1 increased labour efficiency, e.g. learning short cuts, improved dexterity and greater familiarity with systems/procedures;
2 greater specialization/redesign of working methods;
3 process and production improvements, e.g. design of more effective plant and increased automation;
4 changes in the resources mix, e.g. substitution of initially highly qualified labour by less qualified personnel;
5 product standardization and product redesign.

The important point to note about these sources of experience curve effects is that many of them are not 'automatic', i.e. in order to achieve experience curve effects management must undertake the necessary steps and exercise initiative.

Experience effects provide the opportunities to lower costs, but appropriate strategies are required to grasp them.

Calculating experience curve effects

Understandably experience curve effects differ between industries and between companies. The basic formula for the experience curve is:

$$Cq = Cn\left(\frac{q}{n}\right)-b$$

Where:

q = the experience (cumulative production) to date
n = the experience (cumulative production) at an earlier date
Cq = the cost of a unit q (adjusted for inflation)
Cn = the cost of a unit n (adjusted for inflation)
b = a constant depending on the learning rate.

Experience curves are normally expressed in percentage terms, e.g. an '85 per cent' experience curve or a '70 per cent' experience curve. Expressing the experience curve in this way tells us the expected reduction in costs for each doubling of cumulative production. An '85 per cent' curve means that the unit cost of producing (say) 2,000 cumulative units of production will be only 85 per cent of the unit cost when cumulative production had reached only 1,000 units. It is important to note

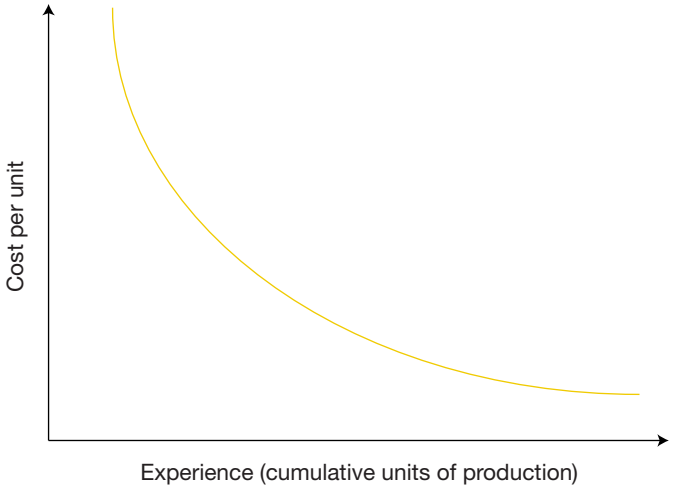

FIGURE 15.3 A typical experience curve

that evidence shows that this percentage impact in costs is the same across the whole range of cumulative experience i.e. doubling experience from four million to eight million units results in exactly the same percentage cost reduction as doubling experience from 100 to 200 units in the company. This too, has important strategic implications.

A typical experience curve is shown in Figure 15.3. Note how the curve shows that the higher the level of cumulative production the lower the cost per unit will be.

Strategic implications of the experience curve effect

In industries where curve effects are present (and this is in most industries) and particularly where these are substantial, a significant competitive edge can be gained by adopting a strategy aimed at moving down the experience curve more rapidly than competitors.

In effect, this means being the dominant firm in an industry, with strategies aimed at being the early leader and capturing market share. Remember that the experience curve effect is based on cumulative production and not scale of production. This means that in the early stages it is simple to, for example, double market share at relatively low volumes. Early leadership can thus ensure that the leaders' costs can be reduced relatively quickly and often before competitors have time to enter the market. By the time these competitors are able to do this the early market leader has established an unassailable cost advantage and competes on price leadership. Owing to the experience curve effect, high market share undoubtedly becomes a prime objective in marketing strategies. When considering this strategy the following points need to be borne in mind:

- Achieving high market shares can be expensive. In the short term we need to consider if we can finance the capture of market share.

- Market share – and hence cumulative volume – is easier to achieve in high growth markets where experience can be gained by taking a disproportionate share of new sales.
- The pursuit of market share in order to lower costs – and hence competing through price leadership – assumes that the market is price sensitive. Not all markets are; it often makes more sense to compete on superior products or service rather than price.

Experience curve effects are much greater and therefore more relevant in industries such as Aerospace than they are in many service product industries. This explains why the European Consortium which has produced the 'Eurofighter' aeroplane was reliant on securing market share. Only major orders from the defence departments of different governments enabled the venture to succeed.

In short, the pursuit of competitive advantage based on experience curves is not a certain solution for success in an industry. The experience curve concept is a useful adjunct to the strategic market planner's portfolio of ideas and is particularly useful for market share and pricing decisions. Like the product life cycle concept, it has in part provided the impetus to the development of more comprehensive planning tools. The first of these is the Boston Consulting Group's growth/share matrix, but before this we need to consider the nature of these modern tools of strategic marketing planning.

COMPREHENSIVE TOOLS OF STRATEGIC MARKETING PLANNING

In Chapter 4 and the earlier part of this chapter we looked at some of the earlier tools of analysis available to the marketing planner for analysing strategic alternatives and choices. We have seen that although they are useful, they represent only a partial framework for analysis and decision making. In recent years progress has been made in developing more comprehensive tools of strategic analysis. Different though the various tools may be, they are all primarily directed towards two essential activities:

1 diagnosis of the current position of the company;
2 prescription of strategies for the future aimed at maintaining, or improving, performance.

A particular problem for the marketing planner in the large multi-product/multi-market company is that decisions must be made as to what priority to place on each of several business areas, each competing for scarce resources. For future success in business, it is vital that these conflicting demands for resources are balanced so as to offer the greater chance of meeting overall corporate objectives. The partial perspectives offered by the tools of analysis examined earlier are particularly inappropriate for this need, hence the development of more comprehensive approaches.

Before we look at these more comprehensive tools of strategic market planning, we must emphasize that none of the tools provides a fail-safe panacea for diagnosis and decision. Each requires managerial judgement and experience in its application and interpretation. If we think of them as being aids to marketing management rather than a replacement for judgement, we have gone some way towards using these more powerful tools wisely.

Some tools of strategic market analysis fall into the category of 'portfolio analysis models'. Referred to as 'product market grids', these models are based on positioning each business unit, or specific product market on a grid according to the attractiveness of the market and the company's competitive position.

One of the earliest and most influential of the product/market portfolio techniques is that developed by the Boston Consulting Group. We now examine this strategic tool in detail, and examine its uses and limitations.

THE BOSTON CONSULTING GROUP'S (BCG) GROWTH/SHARE MATRIX

In the mid 1960s the Boston Consulting Group (BCG) was founded to provide advice to strategic marketing planners. Building on previous work and evidence relating to the experience curve effect BCG developed a simple, but potentially powerful, framework for analysing an organization's business with a view to providing strategic guidelines. The essentials of **BCG's growth/share matrix** are illustrated in Figure 15.4.

Compiling the BCG matrix

The completion of the matrix is straightforward. The four steps are:

1 For each strategic business unit (SBU) or product determine annual growth rate in the market.
2 According to this growth rate, next determine the extent to which the growth rate is 'high' or 'low'. Normally, growth rates of 10 per cent or more are considered 'high'.

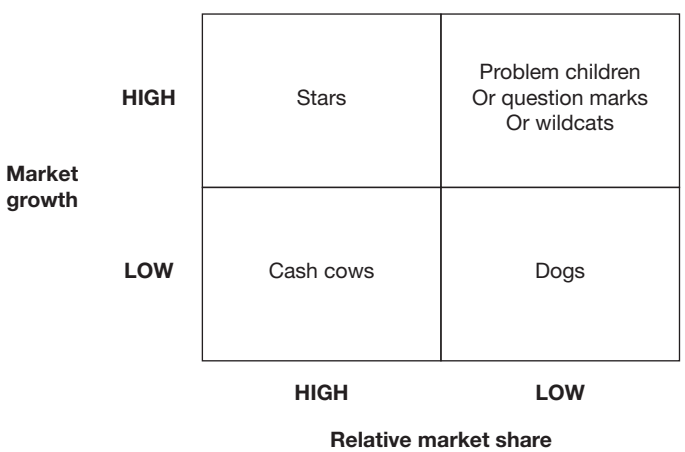

FIGURE 15.4 BCG's growth/share matrix

3 For each SBU or product determine relative market share. Normally this is calculated on the basis of market share compared to that of the largest competitor.
4 According to relative market share, determine the extent to which this is 'high' or 'low'. Normally a relative market share of 10 per cent is required to fall into the 'high' category.

We now have all the information we need to position our SBUs or products in the matrix. We can also calculate the value of the turnover of each SBU or product and denote this by using circles, where the area of the circle is proportionate to its turnover.

Interpreting and using the matrix

An illustration of a completed growth/share matrix is shown in Figure 15.5. Having completed the growth/share matrix, each SBU may be classified as follows:

- *Low growth/high share: 'cash cows'*
  As the term implies, these products or SBUs generate more cash than they use and can be used for funding other products or SBUs.
- *Low growth/low share: 'dogs'*
  These products or SBUs tend to be loss makers, but might provide small amounts of cash; long term their potential is usually weak. When a 'dog' produces a small profit it is termed a 'cash dog', and where it produces a loss it is termed a 'true dog'.
- *High growth/low share: 'problem children' (sometimes called 'question marks' or 'wildcats')*
  These are products with possible long-term potential, but they tend to use large amounts of cash. This is so if they are to increase their market share, as they must do if they are to survive in the long run.
- *High growth/high share: 'stars'*
  Managed well, these SBUs or products have the potential to become cash cows of the future. This means that the company must maintain their market share, usually in the face of strong competition, until market growth subsides. This means that these products or SBUs tend to be heavy users of cash arising from high promotional expenditures in growth markets.

The concept of building a balanced portfolio

Once strategic business units have been analysed in this way, a key feature of the BCG approach is its emphasis on the need to build a balanced portfolio of businesses or products. This notion is captured in the following quote from Lancaster and Massingham:[5]

> A balanced portfolio would ideally contain few or no dogs, some problem children, some stars and some cash cows. The balance between problem children, stars and cash cows

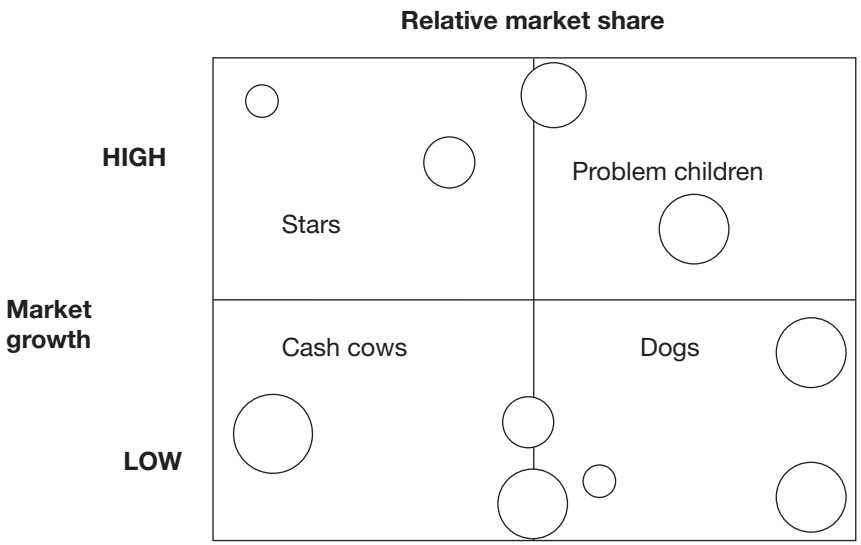

FIGURE 15.5 Example of a completed BCG matrix

should be such as to ensure that the company has sufficient net positive cash flow from its cash cows to fund its stars and turn them eventually into cash cows. Funds from cash cows are also used to turn products which are currently problem children . . . into stars. Not all problem children can be moved in this way and eventually some of them will . . . become dogs. In the long run all dogs are potential candidates for elimination from the product range.

A balanced portfolio is thus intended to ensure sufficient positive net cash flow to guarantee long-run success for the company as a whole. In order to achieve this, each SBU or product must be analysed and a decision made as to which of the following strategies is to be applied in order to maintain the balanced portfolio:

- *Build*: As the term implies, this means increasing the product or SBU's market share, usually implying a net input of cash or resources.
- *Hold*: This strategy is aimed at maintaining market share and is therefore appropriate for strong cash cows.
- *Harvest*: Here a decision is made to generate as much short-term cash flow from the SBU or product as is possible and it is appropriate to weak cash cows.
- *Divest*: A divest strategy means either selling or liquidating the SBU. This strategy is appropriate for weaker problem children and for most dogs. It should be noted that sometimes dogs may be retained for other strategic reasons such as maintaining a full product portfolio.

The BCG approach offers a simple method of analysing and evaluating current businesses, and is a relatively straightforward way of arriving at future strategies for them. There are, however, a number of problems with the use of the BCG growth/share matrix.

Criticisms and limitations of the BCG approach

Among the major criticisms and limitations of this portfolio technique we include:

- *Over-simplification*: The matrix uses only the factors of market growth and relative market share to assign products or SBUs to its various cells. This is based on strong empirical evidence showing that cash flow is related to these two factors. There are usually many more factors that can, and do, affect net cash flow in a company.
- *Cash flow as the performance criterion*: Some doubt the use of cash flow as being the most appropriate objective in a company, arguing instead that return on investment is more appropriate.
- *Ambiguity in classifications*: The analysis in BCG's product portfolio matrix can be undertaken either at the SBU level, or for each product/market. It is, however, often difficult in practice to separate these. There is also controversy over what constitutes a 'high' versus a 'low' market growth rate and what constitutes a 'high' versus 'low' market share.
- The technique does not deal with issues surrounding new products, or in markets with negative rates of growth.

Partly because of these criticisms, a number of other techniques have been developed which go some way to countering these problems. The techniques we now examine are some of the better known examples of these, i.e. the McKinsey/General Electric business screen, the Shell International directional policy matrix, and the product life cycle portfolio matrix. We commence with the McKinsey/General Electric model.

THE MCKINSEY/GENERAL ELECTRIC BUSINESS SCREEN

The BCG growth share matrix is criticized for is its reliance on only two factors to position strategic business units in the matrix. A number of strategic planning portfolio techniques have been developed which use several factors to analyse strategic business units, instead of only two in BCG's approach. Working in conjunction with McKinsey & Co. (management consultants) General Electric (GE) have developed one of the more popular of these **multi-factor portfolio matrices**.

In the GE matrix, SBUs are evaluated using the dimensions of 'market attractiveness' and 'business position'. In contrast to the BCG approach, each of these two dimensions is, in turn, further analysed into a number of factors which underpin each dimension. In order to use this technique,

TABLE 15.1 Cravens' factor analysis

Attractiveness of market	*Status position of business*
Market factors	
■ Size (volume/value both)	■ Market share
■ Growth rate per year	■ Company's annual growth rate
■ Sensitivity to price	■ Your influence on market
■ Cyclicality, etc.	■ Lags or leads in sales
Competition	
■ Types of competitor	■ Comparison in terms of products, markets, capabilities.
■ Degree of concentration	■ Relative share change
■ Changes in share	■ Company's level of integration
■ Degrees and types of integration	
Financial and economic factors	
■ Contribution margins	■ Company's margins
■ Barriers to entry/exit	■ Barriers to company's entry or exit
■ Capacity utilization	■ Company's capacity utilization
Technical factors	
■ Maturity and volatility	■ Company's ability to cope with change
■ Patents and copyright	■ Degree of patent protection
■ Complexity	■ Depth of company skills

the strategic planner must first determine these various factors contributing to market attractiveness and business position.

Cravens[6] gives good examples of factors associated with market attractiveness and business position, and the relationship between them. Table 15.1 lists some of these.

GE's product/market attractiveness factors

The original GE matrix used certain factors to assess product/market attractiveness:

- size;
- growth rates;
- competitive diversity and structure;
- profitability;
- technological impacts;
- social impacts;

- environmental impacts;
- legal impacts;
- human impacts.

GE's business strength factors

For assessing business strength, the GE matrix uses ten factors:

- size;
- growth rate;
- market share;
- profitability;
- margins;
- technology position;
- strengths and weaknesses;
- image;
- environmental impact;
- management.

GE believes that these are the key factors for their business, which taken together influence return on investment (note that the BCG approach uses cash flow). This list of GE factors can be modified for each company according to its own particular circumstances, and indeed many of the alternative multiple factor matrices simply use a different checklist of attributes.

Constructing the GE matrix

The five steps in compiling the GE matrix are:

1 identify strategic business units;
2 determine factors contributing to market attractiveness;
3 determine factors contributing to business position;
4 establish ways of measuring market attractiveness and business position;
5 rank each SBU according to whether it is:

   - high, medium or low on business strength;
   - high, medium or low on market attractiveness.

The final two factors (measuring and ranking) require that some numerical rating be given to both the relative importance of each factor used to assess market attractiveness (assuming they are not all equally important) and business strength. Multiplying these together and totalling them for each strategic business unit then gives an overall composite score which, in turn, enables the compilation of the matrix. In addition, the total market size for each SBU can be represented by the area of a circle, with the share of the company's SBUs in each product market being indicated by a segment in the circle.

The approach typically results in a portfolio similar to the one shown in Figure 15.6. As with BCG's matrix, its visual presentation enables a considerable amount of complex information to be presented in an easily digestible form.

Interpreting and using the GE matrix

Having completed the matrix, as with the BCG approach, the marketing planner can then assess the balance of SBUs in the organization and determine appropriate future strategies for each.

Strategy guidelines Of itself, the GE matrix does not purport to establish detailed strategies for each SBU. This is a task for company management and will require consideration of many factors. However, according to an SBU's position in the matrix we can distinguish between three broad strategic guidelines. These are indicated in Figure 15.7.

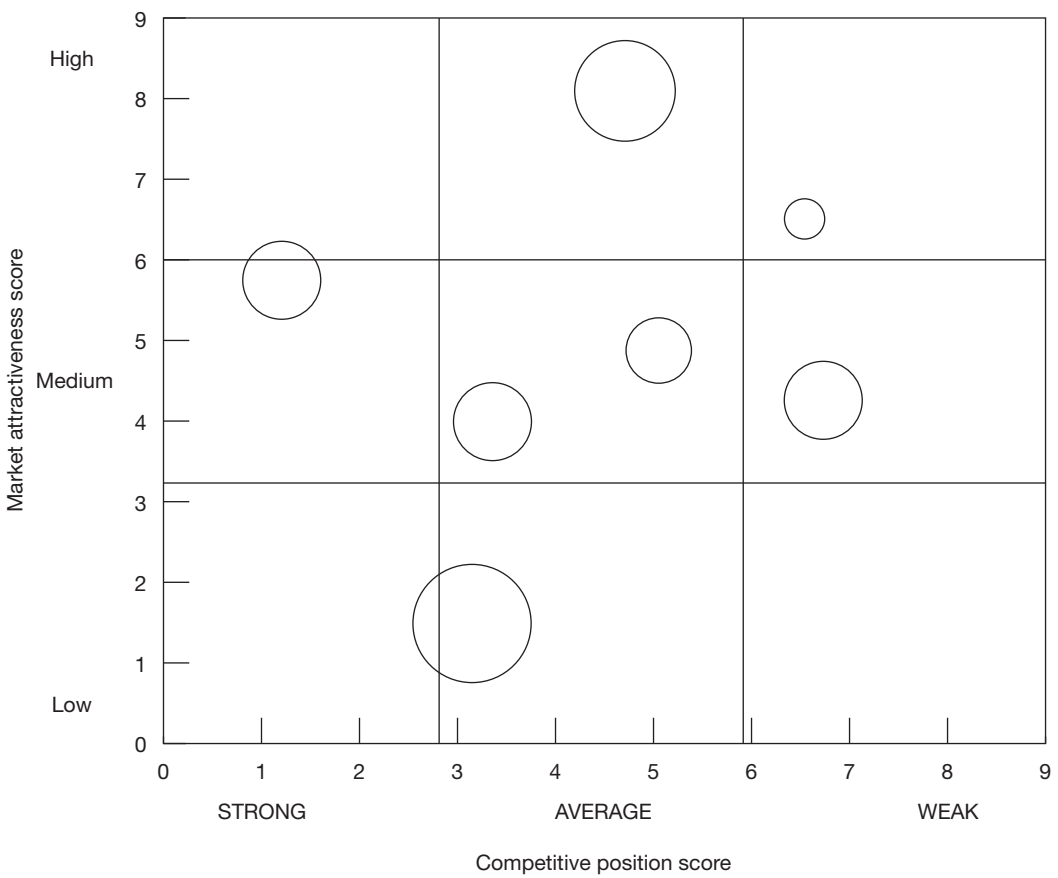

FIGURE 15.6 GE/McKinsey matrix

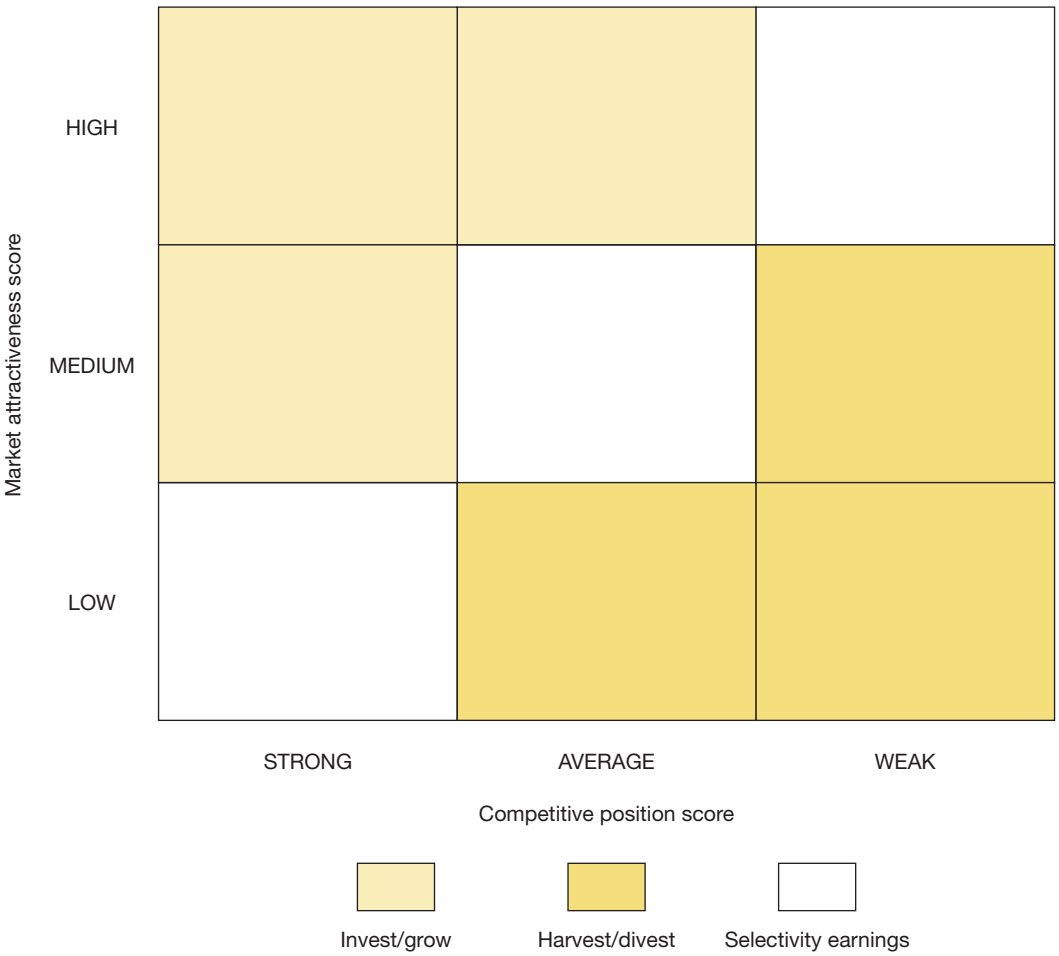

FIGURE 15.7 Strategy guidelines from the GE matrix

Strategy guidelines in action

Clearly, those SBUs which score high/strong or medium/strong or average/high on competitive position and market attractiveness are the ones where a company should seek at least to maintain investment and preferably grow. SBUs which score a combination of low/weak or low/average or medium/weak or competitive position and market attractiveness are candidates for which, at the very least, no more investment can be warranted. Wherever possible as much cash should be harvested from them as is feasible. SBUs scoring either high/weak or medium/average or low/strong combinations on competitive position/market market attractiveness should be examined to see whether some degree of selective investment to maintain or increase earnings would be appropriate.

Criticisms and limitations of the GE matrix

Wind and Mahajam[7] criticized obtaining composite scores on position and attractiveness. They pointed out that identical scores can hide key differences between products, and suggest there are limitations to the simple weighting system that is used. They preferred more custom-built approaches. Each cell will contain several SBUs, so it is argued that because a number of different criteria have placed each SBU in the cell, that a simple singular investment strategy is insufficient.

Abell and Hammond[8] suggested three distinct problems in making assessments of either industry attractiveness or business position:

1 the relevant list of contributing factors in any given situation has to be identified;
2 the direction and form of the relationships have to be determined;
3 each of the contributing factors has to be weighted in any composite measure of 'attractiveness' or 'position', depending on its relative importance.

Company position/industry attractiveness is less easily measured than the growth/share approach as this requires subjective judgements about where a particular business unit should be placed. This is more likely to be open to misjudgement. The value of the GE matrix much depends on having access to comparative information regarding competitors and such access is not always readily or easily available.

We see that the GE matrix is not without its limitations and problems. Nevertheless, we should not discount the fact that this particular matrix was instrumental in spawning several later multi-factor matrices for strategic market planning. One of these is Shell's directional policy matrix.

THE SHELL DIRECTIONAL POLICY MATRIX

A somewhat similar approach to the GE business screen is the Shell directional policy matrix.[9] This approach also has two dimensions: company's competitive capabilities (vertical axis) and prospects for sector profitability (horizontal axis) as shown in Figure 15.8. The firm's SBUs or products are plotted into one of the nine cells in Figure 15.8 and subsequently there is a suggested strategy for each of the nine cells. The cells represent, starting at the bottom right hand corner:

- **Leader** where major resources are focused on the SBU.
- **Try harder** might be vulnerable over longer periods of time, but OK now.
- **Double or quit** gamble on potential SBUs for the future.
- **Growth** grow the market by focusing some resources here.
- **Custodial** like a cash cow, milk it and do not commit more resources.
- **Cash generation** milk for expansion elsewhere.
- **Phased withdrawal** move cash to SBUs with greater potential.
- **Divest** liquidate or move these assets on as fast as possible.

Company's competitive capability	Prospects for sector profitability: UNATTRACTIVE	AVERAGE	ATTRACTIVE
WEAK	Disinvest	Phased withdrawal	Double or quit
AVERAGE	Phased withdrawal	Custodial	Try harder
STRONG	Cash generation	Growth	Leader

FIGURE 15.8 The Shell directional policy matrix

There follows a description of how to complete the matrix and what each of the horizontal and vertical axes in the model mean.

The horizontal axis: prospects for sector profitability

This includes criteria of market growth rate, market quality, industry situation and environmental considerations. On each of these factors an SBU or product is given from one to five stars. For instance, the factor of 'market quality' might be judged on the basis of several criteria such as pricing behaviour, past stability or profitability of that sector. The qualitative or quantitative evaluation of market quality is then converted into a rating from nought to four. The same procedure is followed for each of the other three factors, so the overall score on sector profitability is the total of the ratings on all four factors.

The vertical axis: company's competitive capability

The same approach is used here, except that the company's capabilities are assessed on the basis of market position, product research and development and production capability. These are further divided into sub-factors applicable to any particular industry.

Shell emphasize that whatever strategy is eventually selected, the aim is that is should be 'resilient', i.e. viable in a diverse range of potential futures. Hence, each strategy ideally should be evaluated against all future possible scenarios.

Limitations of the Shell directional policy matrix

The Shell directional policy matrix has been criticized on the grounds that, like the BCG approach, it assumes that the same set of factors is universally applicable for assessing the prospects of any product or business. Critics believe that the relevant factors and their relative importance will vary both according to the firm's products and the individual characteristics of each company. In addition, the matrix does not provide any guidelines on how to implement the strategies suggested in each cell of the matrix.

THE PRODUCT LIFE CYCLE PORTFOLIO MATRIX

Developed by Barksdale and Harris,[10] the **product life cycle portfolio matrix** is specifically designed to deal with the criticisms that the BCG matrix ignores products that are new, and that it overlooks markets with a negative growth rate, i.e. markets that are in decline. Because of this, the product life cycle portfolio matrix includes a specific focus on the growth and maturity stages of the product life cycle in developing the portfolio technique. However, the same assumptions that underlie both the conventional product life cycle experience curves and the BCG growth/share matrix are also built into this model. These assumptions, which we have already witnessed, are repeated:

- Products have finite life spans. They enter the market, pass through a period of growth, reach a stage of maturity, subsequently move into a period of decline and finally disappear.
- Strategic objectives and marketing strategy should match the market growth rate changes to take advantage of the challenges and opportunities as the product goes through the different stages.
- For most mass-produced products, costs of production are closely linked to experience (volume). Hence, for most types of products, the unit cost goes down as volume increases.
- Expenditures – investment in plant and equipment and marketing expenses are directly related to rate of growth. Consequently, products in growth markets will use more resources than products in mature markets.
- Margins and the cash generated are positively related to share of the market. Products with high relative share of the market will be more profitable than products with low shares.
- When the maturity stage is reached, products with high market share generate a stream of cash greater than that needed to support them in the market. This cash is available for investment in other products or in research and development to create new products.

Building on these assumptions, Barksdale and Harris also highlight the additional issues which arise out of pioneering new products, which they label *infants*, and products in declining markets which they label as either *warhorses* (high share products in declining markets) or *dodos* (low share products in declining markets). The result is combined PLC/product portfolio model as shown in Figure 15.9. This approach is based on the notions that both the initial and decline stages of the life cycle are important and, more specifically, recognizes that product innovations as well as products with negative growth rates are important and should not be ignored in strategic analysis. The result is an expanded (2×4) portfolio matrix, as shown in Figure 15.10. The seven-cell matrix is composed of the usual four BCG categories plus the new categories as outlined.

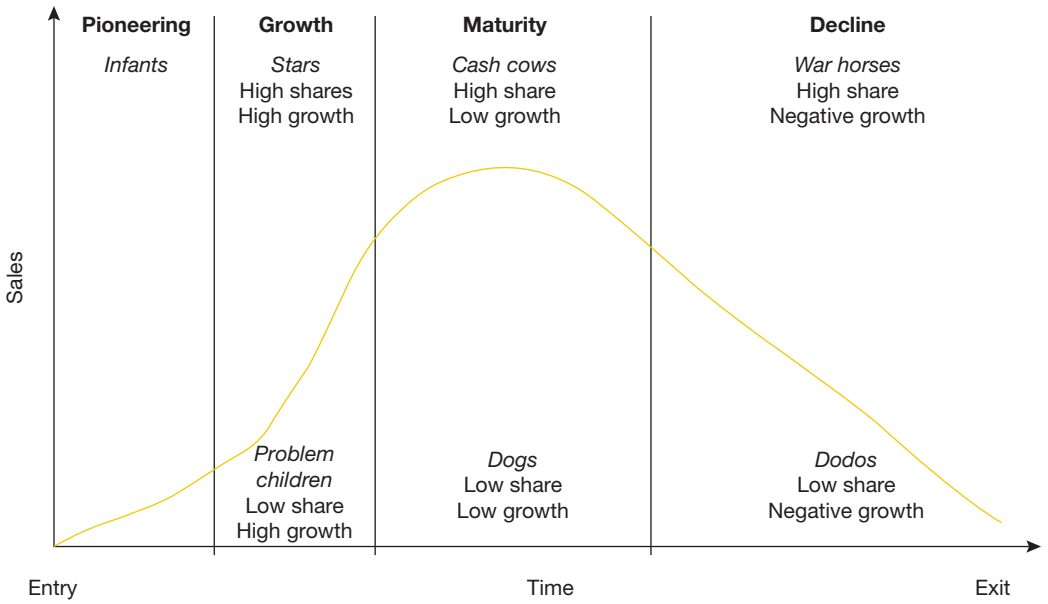

FIGURE 15.9 Barksdale and Harris combined PLC/BCG matrix

Warhorses

When a market begins to exhibit negative growth, cash cows become warhorses. These products still have high market share and hence can still be substantial cash generators. This might require reduced marketing expenditure or it may take the form of selective withdrawal from market segments or elimination of certain models.

Dodos

These are products that have low shares of declining markets with little opportunity for growth or cash generation. The appropriate strategy is to remove them from the portfolio, but if competitors have already removed themselves from the market it may still be marginally profitable to remain. Timing is thus crucial.

Infants

These are pioneering products that possess a high degree of risk. They do not immediately earn profits and consume substantial cash resources. The length of the innovation can vary from a short time with consumer packaged goods to an extended period with a product that is innovative enough to require a shift in buying habits.

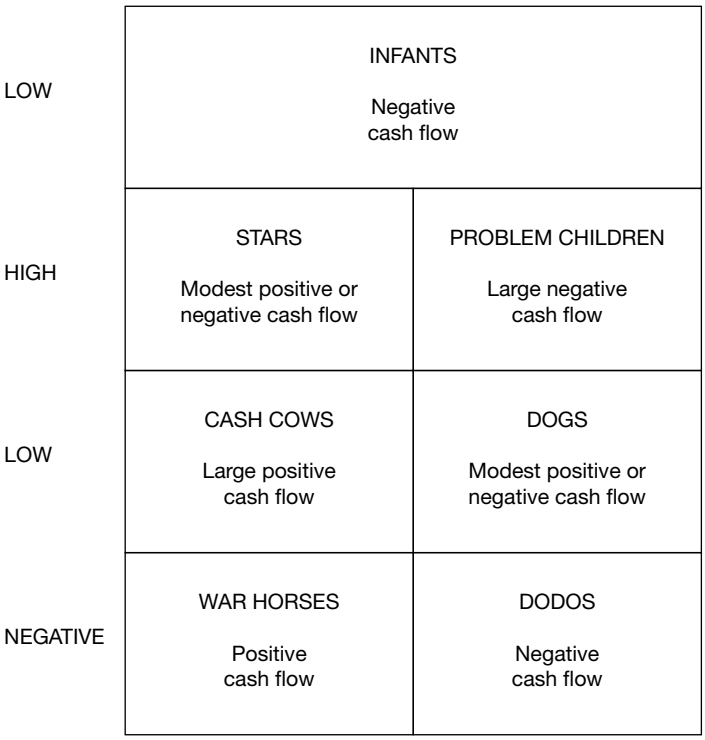

FIGURE 15.10 Product life cycle portfolio matrix

Uses and limitations of the product life cycle portfolio matrix

The developers of the matrix claim that it is comprehensive. Regardless of the level of analysis – corporate, business division or product/market categories – they suggest that the expanded model provides an improved system for classifying and analysing the full range of market situations. Classification of products according to this expanded model is meant to reveal the relative competitive position of products, indicate the rate of market growth and enable the configuration of strategic alternatives in a general sense if not in specific terms.

The key here is that it is only 'general'. Barksdale and Harris admit that the new matrix does not eliminate the problems involved in defining, say, products and markets, or rates of growth. As with the other strategic planning tools, the benefits a company can achieve are only as good as the inputs upon which they are based.

It is claimed that it provides an improved framework that identifies the cash flow potential and the investment opportunity for every product offered by an organization. In addition, it helps conceptualize the strategic alternatives of all product/market categories of an organization.

PROFIT IMPACT OF MARKETING STRATEGY (PIMS)

In the mid-1960s, Sidney Schoeffler and his colleagues at the Strategic Planning Institute in Cambridge, Massachusetts, began to collect and analyse data from a large number of companies, covering literally hundreds of different product markets. The intention was to provide participating companies with advice, based on empirical evidence about the most suitable strategies to pursue in search of increased profitability. Essentially the analysis focused on comparing the effect of various business strategies on net cash flow and profitability and this came to be termed the **'profit impact of marketing strategy'** (PIMS).

The full PIMS service is available to subscribing companies (i.e. clients). Each client is asked to subscribe more than 100 data items for each 'business', which is defined as an operating unit that:

- sells a distinct set of products or services;
- sells to an identifiable set of customers;
- is in competition with a well-defined set of competitors.

Using a special data form, the client answers questions on factors such as:

- the market environment;
- the state of competition;
- strategy pursued by the business;
- operating results;
- assumptions as to the future in terms of prices, sales, etc.

Information reports

Using the evidence built up in the database, the subscribing company then receives both diagnostic and prescriptive information contained in four main reports:

- *The 'Par' Report*: specifying what return on investment is normal (or 'par') for that particular type of business;
- *The Strategy Analysis Report*: the likely outcome (on profit, sales, cash flow, etc.) of several possible 'broad' strategic moves based on evidence of similar moves by similar businesses;
- *The Optimum Strategy Report*: nominates the combination of strategic moves likely to give the client optimal results for the business;
- *Report on 'Look alikes' (ROLA)*: provides information on likely successful tactics based on analysing the successful moves of strategically similar businesses.

The information is thus client- and business-specific, but in addition, the extensive analyses made by the Strategic Planning Institute have provided a number of general guidelines to strategy selection and implementation.

Thirty-seven basic strategic influences on profitability and cash flow have been identified by the Institute. Taken together, the Institute suggests that these account for 80 per cent of the determination of business success or failure. Of primary importance are the following:

- *Investment intensity*: Higher investment intensity is associated with lower rates of return and cash flow.
- *Productivity*: High value is added for each employee in the businesses, making the company generally more profitable.
- *Market position*: Higher share of served markets leads to higher profits and cash flow.
- *Growth of served market*: 'Favourable to cash' measures of profit; no effect on percentage measures of profit; negative effect on cash flow.
- *Quality of products or services*: Favourable impact on all measures of financial performance.
- *Innovation/differentiation*: Usually has positive effect on financial performance, but only if company has strong initial market position.
- *Vertical integration*: Positive effect in stable markets, negative in unstable ones.
- *Cost push*: Increases in salaries, raw material prices etc., have complex effects on performance according to specific nature of business or company.
- *Current strategic effort*: The existing direction of change of any of the preceding factors often affects financial performance in an inverse manner, e.g. having strong market share increases cash flow; achieving strong market share reduces it.

These and other profit impact marketing strategies (PIMS) findings provide useful insights for the process of strategy development and implementation. A company can use PIMS data in a variety of ways to help in strategic market planning. Clearly, for the subscriber company the information provided is detailed and wide-ranging; in particular, PIMS data can be used for:

- analysing business performance;
- formulating and selecting future strategies;
- analysing and focusing on problems and opportunities;
- assessing competitor performance.

Criticisms and limitations of PIMS

Although PIMS is useful, there is some criticism. The findings are given as conclusions from empirical research, but many of them are self-evident. O'Shaughnessy[11] believes that 'the findings cannot distinguish between causal factors and factors in a state of mere co-existence'. He goes on to say: 'without supporting explanations and appropriate tests, the findings can be misleading in tempting management to deal with symptoms rather than causes'.

Day[12] to some extent agrees with O'Shaughnessy when he states three basic limitations of PIMS:

1 Interpreting and utilizing PIMS findings: PIMS has been used to predict profitability. This should not be so because the model does not tell us about causality.
2 Specification problems: i.e. whether the regression models have omitted important variables and have been properly structured.
3 Measurement error: this happens because of eliminating outliners, standardized inputs etc.

Research by Doyle,[13] although not specifically aimed at criticizing the PIMS system, has shown that perhaps the database does not give sufficient importance to certain facets of marketing strategy.

In particular, Doyle's research illustrates that there is significant potential impact of the brand and its management on company profitability; an aspect which the PIMS data tends to understate.

GREEN PORTFOLIO ANALYSIS

Despite criticisms of portfolio analysis, the techniques and applications of these of analyses have continued to develop. One recent development which illustrates how these tools are continuously evolving to meet the needs of the contemporary marketer is the combination of portfolio analysis and the issue of 'green' marketing. Developed by Ilinitch and Schaltegger,[14] this notion of a 'green' business portfolio is shown in Figure 15.11. The basic notion in this three-dimensional matrix is suggested as involving quantifying the environment impacts of business activities and comparing them with economic aspects of examined business.

The horizontal plane of the matrix consists of the traditional BCG matrix of growth against profitability with the quadrants retaining their respective metaphors. The size of the circle represents the size of the product or firm, in economic or environmental terms. The third, vertical dimension measures environmental impact. Recent developments in accounting mean this can be quantified at plant, SBU, or firm level. The pollution units are calculated by multiplying toxic discharges by regulation standards weighting coefficients. Products deemed to be ecologically sound are called *'green'* and their counterparts are called *'dirty'*. Thus we see the quaint notion of *'green cash cows'* and *'dirty dogs'*.

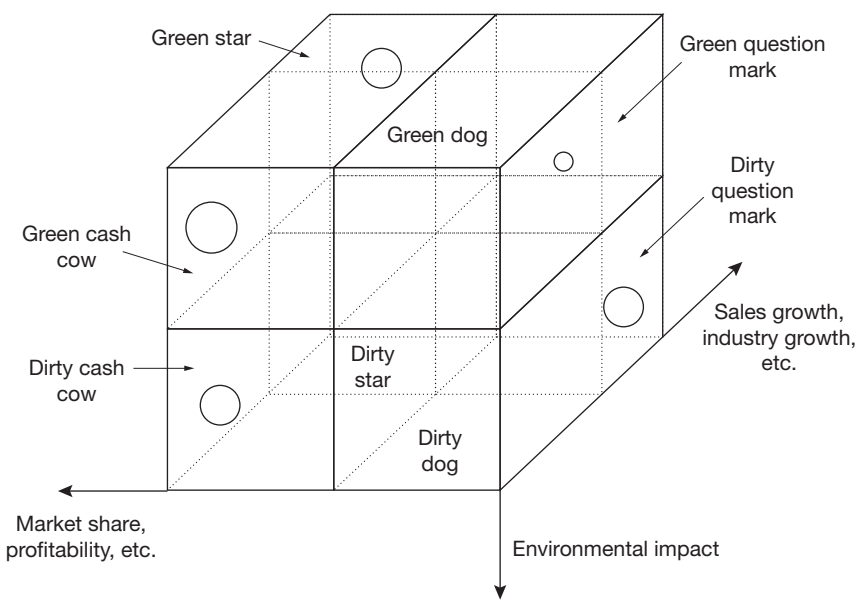

FIGURE 15.11 The 'green' business portfolio

The authors suggest that 'dirty cash cows' are usually old, declining industries that are in the short term very profitable to firms and communities. However, in the long term, the negative publicity and financial penalties ultimately make such industries risky. Alternatively, although the 'green dog' is financially unprofitable, the authors argue that the strategic challenge is to make it viable. This, they suggest, can be done by creating a market for the product and/or capturing market share. Creating a market may in turn involve changing customer values and behaviour, whereas capturing market share may involve lowering production costs.

Battery powered vehicles probably represent an example of 'green dogs'. Many of these vehicles are at the stage where technologically they represent a substitute for conventional petrol and diesel-engine alternatives. Technically proficient as such vehicles may be, the strategic challenge facing their marketers is, as the green business portfolio suggests, that of creating a market. Quite simply, still not enough customers value the undoubtedly green benefits which electric vehicles offer. The marketers of such vehicles face the task of changing customer values and behaviour, although recent initiatives by Government should boost their popularity.

We have included this 'green' portfolio technique not because there is any evidence of it being potentially more valuable to the development of strategic marketing than some of the other recent ideas on portfolio analysis, but rather it illustrates that portfolio techniques are being constantly improved and have changed substantially since the early days of the original BCG portfolio. Indeed the 'green' portfolio notion reflects current concerns in relation to global warming.

Portfolio analysis provides a limited solution to the issue of the allocation of resources and the creation of more appropriate strategies as a result of the analysis required when applying such procedures to businesses. After all, it is more 'scientific' than simply guesswork and intuition in making decision. Such techniques should be regarded as supporting decision-making processes and not as a substitute for them.

SUMMARY

The contemporary marketing planner needs the right tools if marketing strategies are to be effectively developed and implemented. Recent years have seen significant developments in analytical concepts and frameworks of marketing analyses and decision making. Through only partial tools of analysis, and often criticized, some of the earlier frameworks of marketing planning are useful concepts.

More recently, more comprehensive tools of analysis and planning, including portfolio planning tools, have been developed, ranging from the two-dimensional growth/share matrix to the multi-factor matrices of which the GE and Shell Directional Policy matrix are examples.

We have seen the emergence of empirically based comprehensive planning tools, of which PIMS is perhaps the best known. These are aimed at helping the strategic planner delineate and select between alternative strategies for achieving the highest return on investment.

We have also examined some of the recent developments in portfolio analysis and in particular stressed the fact that these tools are continually being improved and updated as

empirical knowledge and experience regarding their uses and limitations develop. In addition, we have seen that the tools are evolving to meet the needs of the contemporary marketing environment.

The tools selected and discussed represent only some of the planning tools now available to the strategic marketer. None of these tools was designed or is able to replace management judgement: nor should they. As we have seen, each of the approaches and tools discussed has its own advantages and limitations. Ideally, these planning tools are best used in combination when developing marketing strategies.

KEY TERMS

CASE STUDY

Breakwater Products plc

Breakwater Products plc produces a range of leisure products for the UK market. Originally, the company was set up to produce rubber airbeds and swimming rings in the 1950s as swimming boomed as a leisure pursuit. From these humble beginnings the company now produces over 150 products, all in some way connected with leisure pursuits.

The company is organized into four strategic business units (SBUs). This organization is based on the fact that the different business units supply different end-use markets and/or customers and in doing so are responsible for different product ranges. So we have the following strategic business units together with their latest market share and market growth rates for the previous year:

. . . continued

CASE STUDY ... *continued*

SBU1 Inflatable products: including the original airbeds and swimming rings (now in plastic) but also including fun items and inflatable dingys, etc.
Market share for this SBU 55% (UK market)
Market growth rate 5%

SBU2 Wheeled products: including skateboards, mountain bikes and scooters, including the most recent fashionable city scooters, etc.
Market share for this SBU 20%
Market growth rate 15%

SBU3 Outdoor products: including tents, climbing boots and clothing, accessories etc.
Market share for this SBU 5%
Market growth rate 3%

SBU4 Fitness products: including fitness wear, rowing machines, exercise bikes, cross trainers, etc.
Market share for this SBU 8%
Market growth rate 15%

CASE STUDY QUESTIONS

1 How can Portfolio Analysis be used by Breakwater Products PLC?
2 What information would be required in order to conduct a BCG Analysis?

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