3 Performance Measurement and Analysis

CHAPTER CONTENTS

INTRODUCTION

Executive decisions rely on information from many sources, not all of which is accounting information. The various sources might be described simply as:

- accounting/non-accounting;
- qualitative/quantitative;
- financial/non-financial; and
- internal/external.

Non-financials are becoming increasingly important in management accounting, but the major source of information is still currently the internal–quantitative–financial–accounting combination. Systems to provide this information embrace the planning and control of activities and the costing of products. Such systems would gather information from the control and monitoring mechanisms in place – inventory control, working capital management, budgeting and variance analysis. The systems in place must be seen as *relevant*, having been based around the operation of the different processes of the organization and providing information appropriate for support and reporting. They should not have the potential to mislead by distorting the true picture (see Cooper and Kaplan, 1988). Lack of relevance – which would normally include lack of timeliness – is perhaps the greatest potential deficiency of any management accounting information system. The nature of the systems will differ between organizations, generally being simpler when there is process manufacturing and when there are only minor fluctuations in work-in-progress inventories.

In this chapter we explore alternative measurement systems, with the emphasis on providing a strategic perspective which embraces the interests of all stakeholders of the organization.

STRATEGIC MANAGEMENT ACCOUNTING

Strategic management accounting (SMA) is an integral part of the establishment of a decision-support system providing information to decision-makers. Decision-makers use accounting information and systems to pursue the goals of an enterprise, so that five key factors pull in the same direction and facilitate the achievement of corporate goals. Those factors are:

- mission statement;
- goals;
- objectives;
- operational strategies; and
- performance measurement.

Strategic decisions may be required in a variety of areas:

- *Corporate strategy*. What business should we be in?
- *Competitive strategy*. How do we compete?
- *Operational strategy*. How do we organize internally to pursue corporate goals?

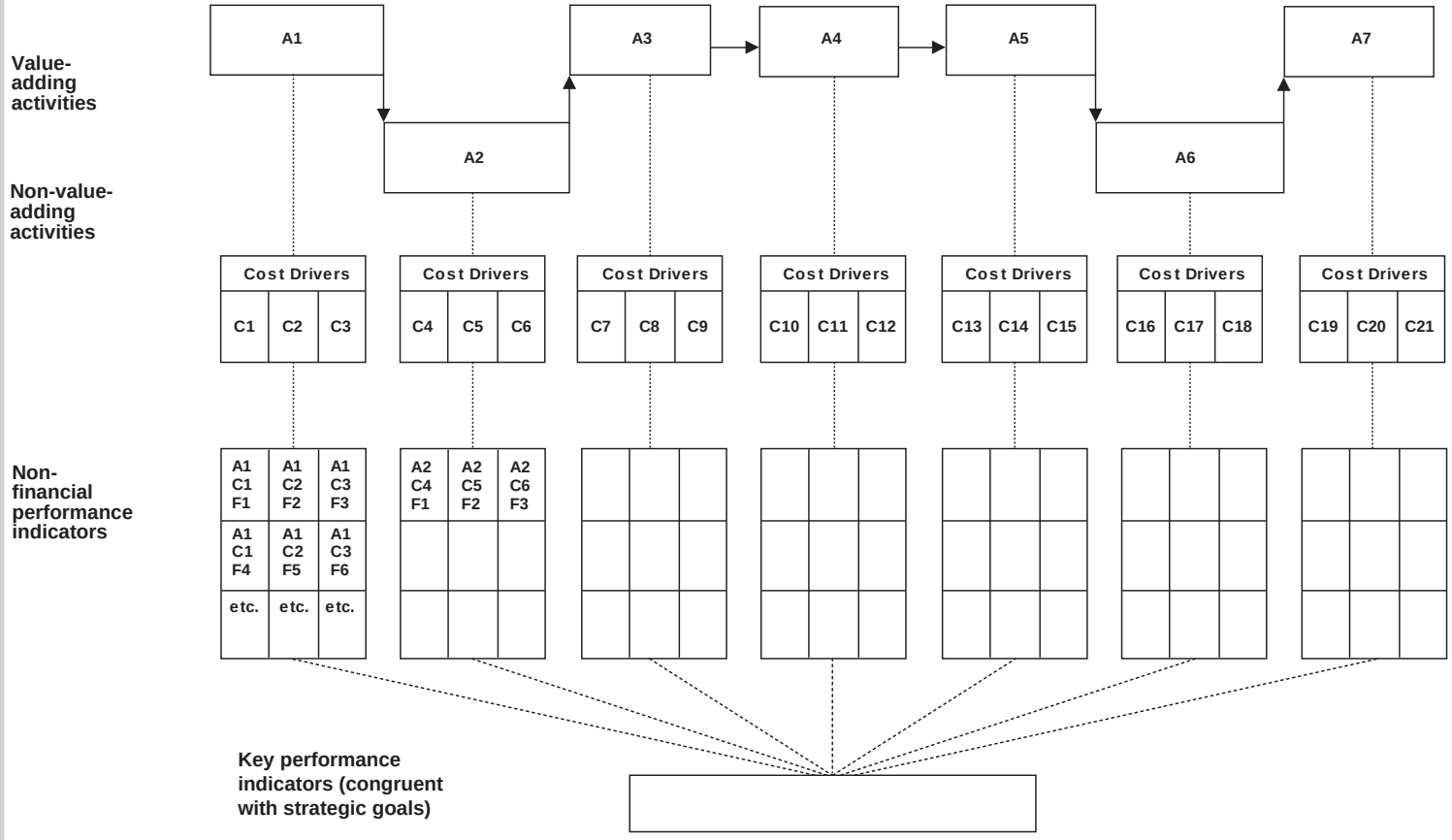
For any organization the choice of an optimum set of non-financial indicators (NFIs) is inextricably linked to its goals. A given set of NFIs must provide measures consistent with the achievement of corporate goals. Where the goals change, the optimum set of NFIs will change too, and a system should be in place which is sufficiently robust to reflect these changes over time. Figure 3.1 illustrates just such a system.

The various processes of the operation are designated A1, A2, …, A7. An initial evaluation allows their classification into value-adding (A1, A3, A4, A5, A7) and non-value-adding (A2, and A6) activities, immediately highlighting the importance of eliminating, or at least restricting, the latter where they do not constitute essential control procedures.

For each activity there is an associated group of cost drivers – a sequence of events or actions which cause costs to be incurred within that activity. For simplicity these are numbered C1, C2, …, C21, and arbitrarily allocated on a proportional basis to activities. In practice, the number of cost drivers and their allocation will be dependent on the complexity of the activities.

For each cost driver we will have alternative measures of performance, usually NFIs, designated F1, F2, … There will, therefore, be a multiplicity of A–C–F combinations representing particular measures of particular cost drivers for particular activities; in practice, too many to measure and monitor on a regular basis. We need to identify a subset of indicators (A–C–F combinations) and associated targets the achievement of which is most closely congruent with corporate goals – as few as five or six such combinations

FIGURE 3.1



Measuring process performance

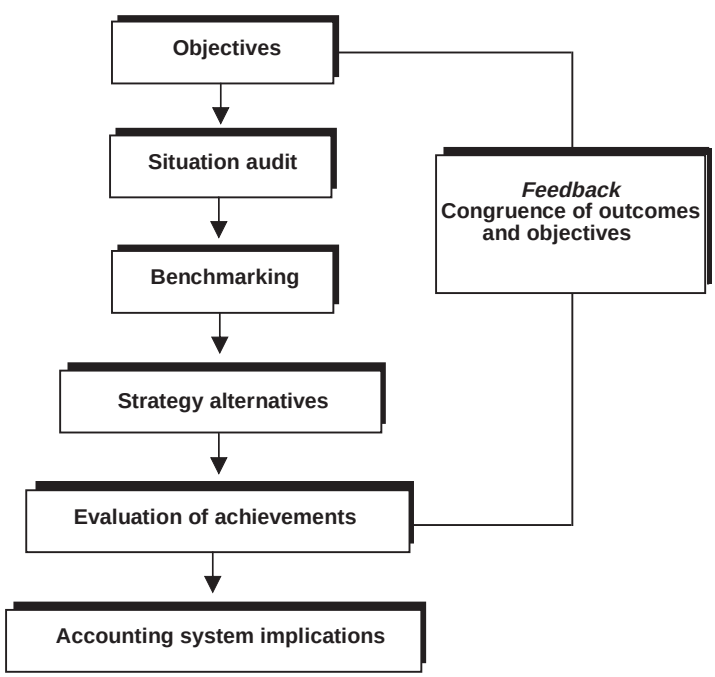
may be enough. These must be monitored to measure trends in performance, and the constituent combinations changed when corporate goals change.

Figure 3.2 shows the stages that must be considered in adopting a strategic approach to management accounting. It is worth examining each of these stages in some detail, and the remaining sections of this chapter do just that.

John Harvey-Jones reveals a systematic approach to managerial problem-solving in practice which corresponds closely with the SMA approach of Figure 3.2 (see Harvey-Jones and Massey, 1990; Harvey-Jones, 1992). He adopts a five-stage analytical process:

- *The published accounts*. Scrutiny of five years of published accounts, looking for trends, patterns and exceptional items. Focusing on the key numbers allows a clear picture to emerge of overall financial performance.
- *The 'top man'*. A face-to-face meeting with the top man (there were no 'top women' in his sample) highlights his personal values and the vision that he has for the future of the enterprise. A statement of the perceived problems provides a basis for analysis and a standard against which the 'real' problems can be measured.
- *The shop floor*. A visit to the shop floor, observation of systems and processes, and apparently idle chatter with employees reveals a great deal about the efficiency of operations, the competence of senior management and workplace morale. A smooth, unhurried product flow, the latest technology, a 'smiley' workforce and managers who 'know their numbers' are paramount.

FIGURE 3.2



Stages in the SMA process

- *Testing hypotheses*. The real problem, rather than that perceived by the chief executive, is formulated by reference to theory, practice elsewhere and expert opinion. Alternative solutions and implementation strategies are developed.
- *Implementing solutions*. The optimum solution must be sold to the company. The directors are the decision-makers and have to believe that the chosen solution is consistent with the objectives of the organization. The alternatives are established and the realities of the financial situation laid bare. In practice, many of the alternatives will be unpalatable; they imply criticism of senior managers, tackle the 'wrong' problem from their perspective and/or convey a different message than what the executive had expected/wanted to hear.

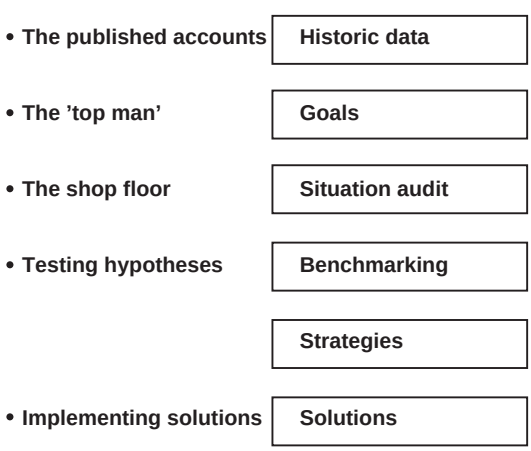
Enlightened management listens and implements the solution, with appropriate modifications to meet a hidden agenda – or, more likely, the implementation does not take place, because the executives do not want to hear the hard truth or they rationalize to explain why the 'troubleshooter' reached the wrong conclusion.

If we link Figure 3.2 to the five-stage Harvey-Jones approach, we can draw the parallels of Figure 3.3. Thus, *the published accounts* and *the shop floor* stages constitute a situation audit, whereby an examination of the historic data (accounting or otherwise) and reference to current practice allow us to appraise current performance and speculate on likely future direction, if unchecked. The implications of a 'do nothing' strategy quickly become apparent.

The *top man* stage establishes corporate goals, the long-term objectives of the organization and the means deemed acceptable to meet those goals, in that they suit the values and mindset of the chief executive.

A benchmarking operation is consistent with seeking expert opinion in order to identify industry best practice. It allows us to compare our own

FIGURE 3.3



The Harvey-Jones approach to problem-solving

performance with that of others and provides a link from the situation audit to the formulation of hypotheses. The development of strategy alternatives follows, which must be weighed against each other as part of the *testing hypotheses* stage.

The final stage of *implementing solutions* is common to both processes; the optimum alternative is sold and the strategy implemented. Evaluation of achievements follows in order to measure the benefits resulting from the new strategy and to determine whether these benefits exceed the costs of implementation and meet the expectations of the participants.

The feedback loop in Figure 3.2, 'congruence of outcomes and objectives', parallels the 'acceptability' criteria, for both solutions and achievements, apparent from the personal values of the chief executive. Goals are being met in a manner consistent with the moral and ethical guidelines set by the chief executive, or the managing family group. The monitoring of outcomes for consistency with strategic goals has choice implications for the accounting methods employed. A failure to match the two may necessitate the adoption of innovative management accounting techniques to ensure that there is a closer correspondence.

Far from being haphazard, the whole process is a systematic one which leans heavily on the interpersonal skills of the analyst. Information must be gleaned in an efficient, even devious manner, analysed appropriately and realistic alternatives formulated. Customer focus is paramount throughout the whole process, but no more so than at the solutions stage, where decisions must be made. The decision-maker is the 'customer' for the strategic alternatives and recommendations for action, and he/she likes nothing less than being told what to do with his/her own business. There must be alternatives and the decision-maker must be allowed to choose.

OBJECTIVES

Once they have been developed, we should resolve to achieve our objectives without compromise. The communication of objectives should come from the top, together with a commitment to monitor their achievement at all levels. It is helpful to identify separate management and leadership executive roles and to distinguish between planning and control functions. Table 3.1 details a matrix of management activities allowing the development of different objectives to be actioned by different personnel.

It is important to take a holistic view of objectives, to ensure that they are consistent and that they are tightly linked to operating processes and associated measures of process performance. Putting goals and objectives into operation across all the processes of the organization should highlight their precise impact on customers and employees. Japanese management accounting emphasizes the direct link between strategic corporate goals and management accounting practices, so that a productive approach is taken in developing a management accounting system which positively supports, rather than tacitly monitors, operational performance.

For example, the process of setting objectives is taken to a second level by the Japanese technique of 'target costing' – a technique devised for high-tech assembly industries but which has now been modified for use in

TABLE 3.1

Management activity by role

	Planning	Control
Management	Setting budgets and standards Revising estimates Organization and staffing	Corrective action Performance appraisal Resource allocation
Leadership	Forecasting Setting objectives Changing direction Strengths, weaknesses, opportunities and threats (SWOT) analysis Resource-based view (RBV)	Motivation Group alignment Goal congruency

process-oriented industries too (see Chapter 6 for a more detailed discussion of target costing).

SITUATION AUDIT (SWOT ANALYSIS)

Central to the development of strategic approaches for the future is a detailed awareness of the current situation. This will include a detailed assessment of organizational effectiveness:

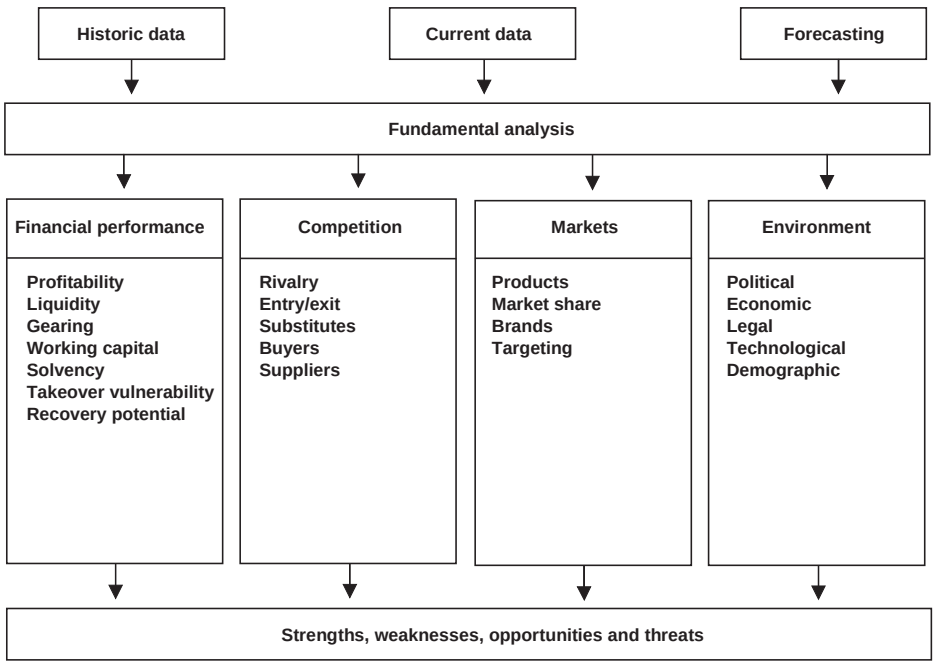
- compared to last year;
- compared to our competitors; and
- compared to the industry as a whole.

Figure 3.4 provides a skeleton for a full strengths, weaknesses, opportunities and threats (SWOT) analysis to determine the potential and the vulnerability of the enterprise across different spheres of activity. Again, the importance of the database to the successful completion of the analysis cannot be stressed sufficiently. It is likely that most organizations will need to collect more data, especially relating to future projections and the intentions of competitors, to make the most of the analysis. Overall, the analysis attempts to provide answers to a number of specific questions:

1 What is our current position?
2 Where would we like to be?
3 Where might we be if we *do not* react to the current situation?
4 What strategies must we adopt:
   (a) to achieve 2?
   (b) to avoid 3?

A fundamental industry analysis (following Porter, 1980) of each sphere of activity provides one means for us to be fully aware of the existence of

FIGURE 3.4



SWOT analysis

opportunities and threats. (An alternative approach, the resource-based view, is discussed later in the chapter.) Each activity merits detailed consideration, allowing us to identify and measure the multitude of variables which indicate how well we are doing.

Financial performance SWOT analysis

Performance appraisal based on historical financial data is fraught with danger because of the doubts surrounding the timeliness of historical information and the comparability of different time periods and companies. Despite these difficulties, and the opportunities for 'creative accounting' and 'window dressing' within generally accepted accounting principles, this fundamental financial analysis must be performed. Such analyses can be extremely powerful and can offer real predictive power, provided that they use:

- the right financial variables;
- the appropriate weighting for importance; and
- the best mathematical combination to integrate the variables.

We must be prepared to perform this analysis both for ourselves and for all companies with which we are associated. These include:

- competitors;
- customers;
- suppliers;
- joint-venture partners; and
- subsidiaries.

Failure, takeover or obvious weakness among any of these businesses is likely to have a significant impact on the outcomes of our business.

Small businesses, particularly those led by entrepreneurs in business for the first time, frequently fail because of an absence of basic business acumen. Shortage of working capital and the lack of proper books and records, with which to exercise control, merely exacerbate the situation.

Argenti (1976) offers five kinds of symptoms of failure, still relevant today, each impacting upon the financial performance of the enterprise:

- financial accounting;
- over-optimism;
- mistakes;
- defects; and
- external signs.

Financial accounting symptoms are readily apparent from poor profitability, heavy indebtedness (and the associated burden of loan interest) together with cash flow problems reflected in difficulty in meeting commitments, paying bills or finding working capital to fund change.

Over-optimism is frequently evident in encouraging public statements issued in the persistent hope that the present adverse conditions will turn around. A web of secrecy will often hide the true situation from banks, creditors and even the enterprise itself. Creative accounting involving the exploitation of woolly accounting standards relating to the recognition and realization of assets and liabilities may be employed to inflate income figures and to massage balance sheet ratios. Management fraud may be adopted as a short-term defensive manoeuvre while the economic upturn is awaited. Dividends are frequently maintained at levels higher than financial analysts believe to be prudent.

Mistakes may be so serious as to alter the status of the company. These are apparent in single large projects – potentially profitable but so risky that they make the survival of the enterprise precarious – and in attempts to grow too fast, over-trading, so that sales levels are greater than the working capital base can support.

Defects in board structure, internal organization or accounting systems may not be apparent as weaknesses when a company is profitable and growing. But when things start going wrong, lack of financial leadership and management depth, especially coupled with an autocratic chief executive and weak board, are often terminal. Young companies will often have no business plans, no budgeting or inventory control and no costing systems, making them inadequately equipped to deal with any change or crisis.

External signs, evident from a visit to the plant or office, often highlight the difficulties under which a company is operating. Physical deterioration of the plant reflects the lack of maintenance expenditure and is frequently

coupled with the absence of senior management through illness. Staff turnover will be high because of salary cuts, a lack of promotion opportunities, low morale and lack of long-term employment opportunities. Product quality and service are low, with no money available to fund the development of new products.

Despite the undoubted value of these indicators, many are, however, difficult to quantify. The development of a decision-useful model is further hampered by the requirement of first-hand knowledge of the enterprise. Fortunately, models constructed on the basis of publicly available financial information can perform extremely well.

Four key financial areas can be identified:

1 *Profitability*. The ability to generate earnings.
2 *Gearing*. The degree of dependence on external borrowings.
3 *Liquidity*. The ability to generate suitable cash flows.
4 *Working capital*. The ability to generate sufficient resources to promote future growth.

The combination of these factors can provide an excellent indication of financial risk and a measure of solvency and relative financial performance. The major problem is one of constructing an optimum model of financial performance (a question considered in more detail in Chapter 9, with the development of linear discriminant models). Three questions need to be answered:

1 Which financial variables best represent each of the key financial areas?
2 What weighting should be assigned to each of the variables?
3 What mathematical function best describes the relationship?

The first of these questions is the most difficult to answer, since the 'best' single ratio may not necessarily be the one that is statistically most useful within a combination of such ratios. For example:

$$\frac{\text{Profit before interest and tax}}{\text{Total assets}}$$

is a sensible and widely-used ratio measuring profitability, but in practice it is usually outperformed by the more obscure

$$\frac{\text{Profit before tax}}{\text{Current liabilities}}$$

for the purpose of model building. The reasons for this are difficult to explain in the absence of a widely accepted theory of business failure, but may be connected with the ease with which the constituent items can be manipulated.

Optimum variable weightings are determined by computer software, and linear models have been shown to work extremely well. A suitable model would therefore be of the form:

$$Z = f(\text{probability, gearing, liquidity, working capital})$$

which transforms to the following, when employing representative weightings:

$$Z = a + b\frac{\text{PBT}}{\text{CL}} + c\frac{\text{TL}}{\text{NW}} + d\frac{\text{QA}}{\text{CL}} + e\frac{\text{WC}}{\text{NCE}}.$$

Here a is a constant; b, c, d and e are the weightings for the ratios. PBT is profit before tax, CL is current liabilities and PBT/CL represents profitability. TL is total liabilities, NW is net worth and TL/NW represents gearing. QA is quick assets, and QA/CL represents liquidity. Finally, WC represents working capital after division by net capital employed. Z is the overall measure of financial risk, with a negative value indicating a company currently exhibiting signs of financial distress, in that it has a financial profile similar to previous failures.

Such models can be intimidating and formidable to construct. Even so, very simple, unit-weighted models can be incredibly robust and give a clear indication of overall performance. For example, the three-variable combination

$$\frac{\text{PBT}}{\text{CL}} + \frac{\text{QA}}{\text{CL}} - \frac{\text{TL}}{\text{NW}} < 0$$

gives a very quick, simple indicator of a company likely to be financially distressed – better still if a composite industry average score can be used as the standard for comparison, rather than zero. Such comparisons are extremely useful rules of thumb before more detailed analyses are conducted.

The commercial Z-score model due to Taffler (1983), for the UK manufacturing sector, detailed all companies with a distressed profile, as reflected by their negative score. The model was the most successful predictive model of its type in the UK, but the equation parameters were unknown until published in Agarwal and Taffler (2003), so facilitating the calculation of overall financial performance scores for all UK manufacturing companies based on their published accounting numbers. The model is detailed below:

$$Z = 3.2 + 12.18X_1 + 2.5X_2 - 10.68X_3 + 0.0289X_4.$$

Here X_1 is profit before tax divided by average current liabilities, contributing 53% of the explanatory power of the model; X_2 is current assets divided by total liabilities, contributing 13%; X_3 is current liabilities divided by total assets, contributing 18%; and X_4 is the no-credit interval (NCI), contributing 16%. The NCI indicates the number of days the company can continue to trade when it can no longer generate revenues. It may be calculated as

$$\begin{aligned}\text{NCI} &= \frac{\text{Defensive assets} - \text{actual liabilities}}{\text{Projected daily expenditure}} \\ &= \frac{\text{Current assets} - \text{inventory} - \text{current liabilities} \times 365}{\text{Sales} - \text{profit before tax} + \text{depreciation}}.\end{aligned}$$

The major problem with models of this type, as emphasized in Morris (1998), is that they deliberately overstate the possibilities of failure.

In identifying 'distressed' companies they ensure that they do not miss any potential failures, so that many companies who will in fact continue to trade successfully over a number of years will be deemed to be in danger. At any one time, about 25% of all listed companies will be designated as 'distressed', but only a third of these will actually fail. The remainder will either:

- be taken over before they are allowed to fail;
- effect a full recovery as a result of the adoption of appropriate managerial turnaround strategies; or
- continue to trade while remaining distressed in the short term.

This over-prediction is a cause for concern in all failure prediction models. The inclusion in the 'distressed' set of those companies who might effect a financial recovery if they implement appropriate turnaround strategies provides a positive angle for early-warning models, in that it identifies some cases in need of remedial action. Slatter (1984: 105) identifies a number of generic recovery strategies that might be adopted, depending on the cause of the 'distressed' state. He specifies seven major causes of decline and potential failure:

- poor management;
- inadequate financial control;
- high cost structure;
- lack of marketing effort;
- competitive weaknesses;
- financial policy; and
- ill-advised acquisitions and projects.

Each of these is associated with a particular set of generic recovery strategies.

Poor management he associates with autocratic leadership, an ineffective board, the neglect of core businesses and lack of management depth. Appropriate remedial action would require new blood in the management team, organizational change and decentralization.

Inadequate financial control is associated with a poorly designed accounting system, misuse of information, the distortion of costs through misallocation of overheads and an organizational structure which hinders rather than facilitates control. This would be improved by new management and decentralization if accompanied by tighter financial controls.

High cost structure is associated with operational inefficiencies, competitor control of raw materials and proprietary knowledge, low-scale economies and high labour costs. Cost reduction strategies and a revised product-market focus are appropriate for recovery. The former would be directed towards:

- raw material costs – aimed at improved buying practices, better utilization and the possible substitution of materials;
- unit labour costs – aimed at increasing productivity and reducing headcount;
- overhead costs – targeting manufacturing, marketing and distribution.

Lack of marketing effort is associated with inadequate or inflexible response to changing patterns of demand and product obsolescence. Improved marketing pursues a revenue-generating strategy embracing:

- changed prices;
- more selling effort;
- rationalizing of the product line;
- focused promotion; and
- a closer focus on customer needs.

Competitive weakness is reflected by lack of strength in both price and product competition and an absent product-market focus. A reliance on old products will be apparent, with inadequate differentiation and no new product ideas on the horizon. Cost, marketing and product weaknesses must be addressed, with growth via acquisition considered as a means of overcoming deficiencies in the product-market area.

Financial policy weakness is characterized by high debt–equity ratios, expensive sources of funding and conservative financial policies. A new financial strategy will likely include debt-restructuring and revenue-generating policies.

Failed acquisitions are characterized by the purchase of losers at a price which is set too high. Poor post-acquisition management often results in a quick resale. Ill-advised big projects, which threaten the company's survival, are associated with start-up difficulties, the loss of major contracts and the underestimation of capital requirements and market entry costs.

Asset reduction is the most appropriate recovery strategy in the circumstances, embracing:

- reducing fixed assets – through divesting operating units and specific assets, management buyouts, and sale and leaseback arrangements.
- reducing working capital – through extending creditors and reducing both inventories and debtors. This would include cancelling orders, returning goods, the sale of surplus raw materials, tighter credit and possibly factoring arrangements for debtors.

The extent to which these strategies are appropriate will also be determined by the severity of the crisis and peculiar industry characteristics. Where short-term survival is threatened we might anticipate a recovery strategy comprising four strands:

- cash generation;
- asset reduction;
- debt restructuring; and
- very tight financial control, embracing cash management, cost reduction, product refocus and improved marketing.

Research continues in order to improve existing failure prediction models so that they are better able to distinguish between 'failed' companies and those capable of recovery. Several interesting avenues are being pursued, including the better utilization of evidence of the deliberate adoption of income-increasing accounting policies and procedures (see Smith et al., 2001), of narrative evidence of changed management priorities and strategies (see Smith and Gunalan, 1996), and increased attention to variables suggested by the management literature (see Smith and Graves, 2005).

Porter's work on competitive structure is grounded in industrial economics and has been very influential in the analysis of current and future strategic positions (e.g., Porter, 1980). One of the weaknesses of models designed to identify takeover victims among distressed enterprises, evident from the previous section, is the focus on financial variables to the exclusion of organizational factors. We might speculate that such models would be improved by reference to data relating to potential competitors and takeover predators, notably:

- their ability to overcome barriers to entry to a new industry;
- their potential for achieving synergy through takeover;
- opportunities for the extension of an existing strategy to new companies or industries;
- opportunities for backward vertical integration to seek control of raw material suppliers; and
- opportunities for forward vertical integration to seek control of retail outlets.

Porter identifies three generic strategies in the thwarting of competitors. There is considerable empirical support to suggest that successful firms can attribute their short-term advantage to one or more of them. Those firms aim to:

1 achieve overall cost leadership
   (a) by pursuing technological change to maintain an innovative edge, and
   (b) by adopting a strict cost-conscious approach, observing high labour and equipment productivities;

2 differentiate and promote the product
   (a) by pursuing brand loyalty rather than price competition,
   (b) by product promotion which makes successful imitators unlikely,
   (c) by stimulating demand from particular customer types; and

3 target a particular market niche
   (a) by identifying distinct sub-markets, and
   (b) by responding to specific customer needs.

These strategies are consistent with measures which reduce short-term vulnerability and provide the base from which to build long-term success, namely:

- large-scale production economies, and associated low prices and quality product (consistent with industry leadership);
- product differentiation and associated high prices and quality (consistent with brand promotion); and
- short-term objectives in which the strategic target may be cost or quality (consistent with niche marketing).

Each of the strategies is still vulnerable to outside influences, notably from international competition and market fragmentation but the pursuit of specific goals considerably reduces that vulnerability. Depending on the

nature of the industry, competition between participants may take one of a number of forms:

- *Threat of entry by newcomers*. Overcome by the deliberate creation of market barriers or by retaliatory action against new entrants to force them out of business.
- *Threat of substitute products*. Necessitating investment in new technology and industry leadership to ensure an awareness of potential advances to which the company is vulnerable.
- *Buyer power*. Dictated by size and market share, which can effectively allow buyers to dictate price and quality to suppliers.
- *Seller power*. Again determined by size and a quasi-monopoly position, allowing sellers to dictate price and quality to potential buyers.
- *Intensity of rivalry*. Determined by growth and cost structures and the difficulty of extricating oneself from a business. In the worst-case scenario, sponsorship or the easy availability of funding may make entry easy, but low margins, specialized assets, negligible liquidation values and high closure and redundancy costs may make exit difficult.

The choice of generic strategy will often dictate the *operational strategy* necessary to meet consumer demand. Capacity planning offers three alternatives:

- *demand matching* (i.e., production = demand), with a consequent impact on the efficient use of resources, equipment and labour;
- *operation smoothing* (i.e., production = average demand), with a consequent impact on the inventory holding necessary to meet variations;
- *subcontracting* (i.e., buy not make), with a consequent impact on the power the company exerts to control its own destiny.

The focus on capacity considerations highlights the importance of product cycle time, bottlenecks and delivery reliability, and the consequent need for innovative measures of operating performance. The intricacies of job scheduling and the time variations inherent in production set-ups and operations sequences foreshadow complexities which may lead to substantial operating delays and outcomes inconsistent with corporate strategy. The research literature addressing throughput issues and the theory of constraints have been particularly influential here (e.g., Darlington et al., 1992; Coughlan and Darlington, 1993).

The 'cost leadership' strategy has popularized strategic cost analysis, with its identification of a value chain between raw materials and end user and the specification of cost drivers and cost reduction opportunities for each activity of the chain. The implications of this for accounting information requirements in order to effect appropriate internal management have been explored by Shank and Govindarajan (1992), and provide the basis for the discussion in the *Cambridge Business Conferences* case study which follows. Importantly, despite the cost focus, one of Porter's six stages of strategic cost analysis calls for the impact of cost reduction strategies on the alternative 'product differentiation' and 'niche marketing' strategies to be carefully monitored. The implications for SMA are clear: a goal focus for each activity, internal and external measurement across a whole range of variables and continuous benchmarking of performance against that of competitors.

CASE STUDY

Cambridge Business Conferences: A case study of strategic cost analysis

Cambridge Business Conferences (CBC) is a company skilled in the organization and running of conferences and seminars. It normally runs six or seven events per year and is currently planning a two-day conference to take place at the University Arms Hotel in August 2004. The conference will be entitled 'Information Technology in the 21st Century' and will present 12 speakers of international reputation, five from UK, three from western Europe and two each from Australia and the USA. The booking of the venue has already incurred the payment of a non-returnable deposit of £2000. The conference organizer, Alice Tan, estimates the following costs to be applicable:

- A daily delegate rate of £30 per head on each day of the conference, to cover tea/coffee and use of all hotel facilities.
- Meals charged at a standard rate – breakfast £12, lunch £18, dinner £28.
- Overnight rate of £49.50 for a double room.
- Stationery and conference papers costing £10 per delegate pack.
- Conference speakers are to be paid a combination of fee plus expenses, and will be offered meals and overnight accommodation at the company's expense.

The following fees have been agreed (and must be paid even in the event of the prior cancellation of the conference): three speakers are to be paid £500; two £600; two £100; one A$2500; and one US$2800. The remaining speakers have either offered their services free or are prevented from charging a fee (i.e., government departments and foreign embassies). Expenses (estimated at £100 out-of-pocket expenses plus travelling expenses per person) are only payable after they have been incurred.

An advertising budget of £1500 has been agreed for the period from March to June. The major marketing thrust will be via mailshot. An initial print run of 5000 brochures has been agreed for distribution by post. Envelopes and covering letters can be reckoned to make the total cost of the mail-out 55p per addressee. Printing costs can be calculated at £500 set-up plus 15p per brochure. Confirmation letters will be sent to those delegates making firm bookings by post at a further cost of 50p per addressee. Administration costs and the costs of word-processing mailing lists are estimated to amount to £7000.

Turning to revenues, pilot testing reveals that delegates will be prepared to pay a conference fee of around £700, the rate to include overnight accommodation between the days of the conference and inclusive of all meals between lunch on day 1 and lunch on day 2. Any delegates requiring overnight accommodation prior to day 1 will be billed separately. The venue can accommodate a maximum

CASE STUDY (cont.)

of 150 delegates in theatre style, or 90 delegates in seminar style, over each of the two days of the conference. Alice is actively seeking other means of raising additional conference-related revenue.

The directors are currently evaluating the viability of this conference in order to make recommendations consistent with the short- and long-term goals of CBC. The analysis should embrace break-even and sensitivity analyses associated with the financial aspects of the proposed event, together with an exploration of the critical non-financial factors.

CASE ANALYSIS

Cambridge Business Conferences is apparently in the conference organization business in the long run, so the single event under consideration cannot be viewed in isolation. The key issues of the case appear to be:

- a company with goals of survival and long-term profitability;
- a single event, 'Information Technology in the 21st Century', which may or may not contribute to company profitability;
- the strategic importance of this event to the long-term viability of the company; and
- the financial impact of the success/failure of this event.

Clearly the company would like this event to make a contribution to profitability and will take pains to ensure that it does so. But its long-term reputation may be more important, so that strategic decisions may be necessary to cope with loss-making contingencies.

A formal SWOT analysis could be conducted here, but would be of limited use in this particular case because very little information is provided on the 'group', its staffing or its alternative 'products'. The calculations are the simplest starting point because they will answer some of our unknowns regarding this particular event. However, we must remain fully aware that the financials – whatever message they give – may be peripheral to the strategic actions eventually undertaken.

Sketching out the relationships reveals that a fixed–variable cost division does not work particularly well, nor does a sunk–discretionary cost division. The focus is clearly on relevant costs and the conference activity, as well as its timing, reveals a possible avenue of analysis.

A simple break-even analysis requires that we establish precise relationships for costs and revenues. Our first assumptions require the formulation of linear relationships:

$$C = a + bq,$$

and

$$R = pq,$$

CASE STUDY (cont.)

where C is total costs, R is total revenues, a is up-front conference-related costs fixed costs, b is variable costs per unit (related to q, the number of delegates) and p is the price to delegates, assumed to be fixed and, therefore, initially eliminating the prospect of discounting. Break-even occurs where $R = C$, that is,

$$pq = a + bq$$

or

$$q = \frac{a}{p - b}.$$

We can similarly express break-even output, q_1, as

$$q_1 = \frac{\text{Fixed costs}}{\text{Price} - \text{variable cost per unit}}.$$

In order to allocate costs appropriately, realistic assumptions need to be made, but there is no single 'right' answer.

Table 3.2 shows a number of areas of uncertainty which require a sensitivity analysis to determine their impact:

- How do we treat the £2000 non-returnable deposit? It may constitute an up-front booking cost or a deposit which is lost only in the event of cancellation. In the latter instance it may be used to offset other conference-related costs, and not constitute additional expense, should the conference go ahead.

TABLE 3.2

Costs and revenues for Cambridge Business Conferences

Cost per delegate	£	Up-front pre-conference costs	£
Delegate rate	60	Speakers fees	2,900
(2 @ 30)		AUD$2500	1,000
Meals: 2 @ 18;		US$2800	2,000
1 @ 12; 1 @ 28	76		5,900
		Deposit	2,000
Room rate	49.50		
		Advertising	1,500
Stationery	10		
		Mailshot: set-up	500
Confirmation letter	0.50	5,000 @ 0.70	3,500
Total	196.00		
		Administration	7,000
		Total	20,400
		Conference-related fixed costs	
		Speaker expenses	1,200
		Speaker travel (economy)	10,800
		Total	12,000

CASE STUDY (cont.)

- The standard combination of meals is assumed to comprise two lunches, one breakfast and one evening meal.
- Double rooms are provided, but it is unrealistic that we can assign two strangers to share one room.
- Speakers' fees (and travel costs) require assumptions about the level of exchange rates.
- Speakers' travel costs require assumptions regarding the likelihood of having to meet first-class/business/economy modes of travel.

Earlier assumptions yield:

$$\begin{aligned}\text{Total fixed costs} &= £20,400 + £12,000 = £32,400 = a\\ \text{Variable cost per unit} &= £196 = b\\ \text{Price per unit} &= £700 = p\end{aligned}$$

So that the break-even no. of delegates is

$$\frac{a}{p-b} = \frac{32,400}{700-196} = 65.$$

This figure would be marginally higher were we to include the costs of accommodating and feeding the speakers too!

Given that the venue can only accommodate 90 delegates in seminar style, the 65 delegate break-even is high, severely limiting the potential profitability of the event (i.e., a maximum profit of less than £13,000 with all seats filled). Theatre style, increasing the accommodation to 150 possible delegates, at least provides the opportunity for expanding the viability of profit levels.

A detailed sensitivity analysis reveals that this solution is relatively robust to uncertainties – except for the necessity of paying first-class airfares for pivotal conference speakers. This could cause a blow-out in travel-related expenses. Costings based on economy-rate fares are probably unrealistic for all but academics! CBC might expect to pay first-class fares for several and business-class for the remainder of the speakers, seven in all, flying to the venue. Conference-related fixed costs might easily double to £24,000, increasing the break-even figure to 88 delegates.

Up-front expenses of £20,400, with no matching revenues, will put pressure on the overdraft facility. With realistic assumptions we cannot make a profit with a seminar-style presentation. Even with a theatre-style format we need well over 100 delegates to make it a viable proposition.

There is a distinct possibility that we will not manage to attract delegates in these numbers at a fixed fee of £700. These factors increase the risk attached to this conference, so that other contingencies have to be examined, one of which is the cancellation option.

If we have already incurred the up-front pre-conference expenses (approximately £20,400) then these can be considered as sunk costs

CASE STUDY (cont.)

and unrecoverable. Of more concern is our ability to recover those costs incurred in the actual running of the event, and if possible to make a contribution which alleviates the sunk cost burden. Either way the event will result in a loss, but one which might be smaller than it otherwise would have been. To justify continuing to run the conference at all, on financial grounds, we must cover the fixed costs element of speaker expenses and travel: on the economy fare assumption

$$\frac{12{,}000}{700-196} = 24 \text{ delegates},$$

or on the first/business class fare assumption

$$\frac{24{,}000}{700-196} = 48 \text{ delegates}.$$

The latter result suggests that we may be struggling to justify the non-cancellation of the event on financial grounds, in that the extent of the losses may be extended past the initial £20,400 by doing so. The numerical analysis here is a great help in heightening our awareness of problems and facilitating the examination of non-financial factors.

It is possible that the survival of the whole company might be endangered by this one event. Early cancellation would cut short the haemorrhage of funds, but at what cost to the company's reputation? If we wish to continue to be regarded as conference professionals we may have to bear the loss of this one event, making it crucial that such losses are minimized. This is the only real problem facing CBC; it is pointless going into great detail on peripheral issues (e.g., sensitivity analysis of obscure items) if these will matter little to the final outcome.

Although conference cancellation may be the best (or even only) option on financial grounds, from a strategic point of view it may be a non-starter. Cancellation of an event at a late stage will inevitably incur short-term financial costs and long-term, perhaps even insuperable, damage to reputation. The problem is, therefore, to run the event at a minimum loss, both to profit and loss account and professional reputation. We, therefore, need to develop alternative approaches to:

- increasing the number of paying delegates (to increase revenue);
- increasing the number of non-paying delegates (to improve ambience and reputation);
- seeking other sources of revenue;
- reducing costs (fixed and variable); and
- adopting accounting procedures which alleviate the impact of the losses incurred.

Each of these issues is worthy of more detailed consideration.

CASE STUDY (cont.)

We might *increase the number of paying delegates* by marketing the two days of the conference or the individual sessions separately. Discounts might be offered for early payment and for the second and subsequent delegates from the same organization. Price discrimination might be practised in favour of local delegates approached at the last minute.

As to *increasing the number of non-paying delegates*, the reputation of the company will depend on the ambience of the conference venue and the 'feel' of the event. If there are very few paying delegates then the conference room must not look empty; a return to a seminar style, with tables, chairs and static flower displays, will reduce the extent of spare space. The number of attendees may only be increased by providing free places (e.g., to colleagues, academics, friends, spouses, etc.). It may even be necessary to 'pay' for free places by providing lunch and afternoon tea. This strategy might backfire if the newcomers are differentiated from the paying delegates (e.g., through age or dress code) and do not conceal the circumstances of their presence.

There may be a number of *alternative sources of revenue*:

- Sponsorship of the event, in whole or parts. Small-scale sponsorship of meals and cocktail parties by firms wishing to advertise their name will be relatively easy to come by and will, at least, reduce the costs to CBC of meals. Major sponsors, with acknowledgement in all literature, and with an opportunity to speak to delegates at opening or plenary sessions, should also be sought, particularly from among members of the hardware and software industry.
- Selling space in thoroughfares of the venue to book publishers and computer companies to provide sales opportunities for them with interested delegates. Prime selling space adjacent to tea/coffee areas would command premium fees.
- Selling collected conference proceedings immediately after the event in the form of books, CDs and/or DVDs/videos. A high price, though significantly discounted from the conference fee, might be charged at the outset to those unable to attend as delegates. The computer and information technology industries and financial institutions might then be targeted for the sales of collected proceedings, but this must commence immediately because the material will age quickly.

Reducing costs may be difficult because quality must not be sacrificed in return for a few pence. Most delegates remember the venue, food, drink and contacts from a conference and not the content of the presentations! It is important that we do not skimp on the quality of, for example, meals; better to try to reduce long-term costs by coming to some single-venue agreement with the hotel for future events.

Turning, finally, to *alternative accounting procedures*, it is doubtful whether all of the fixed costs identified earlier are specific to this

CASE STUDY (cont.)

conference. It could be that at least part of the following expenditures are attributable to other events or to the company as a whole:

- advertising (£1500) – may include flyers for future events;
- administration (£7000) – will include the establishment of a database of names/addresses for use in targeting delegates of future conferences.

Part of these could, arguably, be treated as depreciable assets rather than being expensed directly and attributed to this particular conference activity.

The going-concern assumption relative to CBC incorporates a commitment to running this conference once it has been promoted. Any financial losses incurred must be borne in the cause of furthering the reputation of the company. All of the suggestions above which involve increasing revenue, increasing the number of delegates and seeking new sources for both should be explored. Great care should be addressed in cost-cutting, and accounting procedural manipulation attempted only if it is essential that the financial outcome of this particular conference 'looks' better; for the company as a whole it may well represent wasted effort.

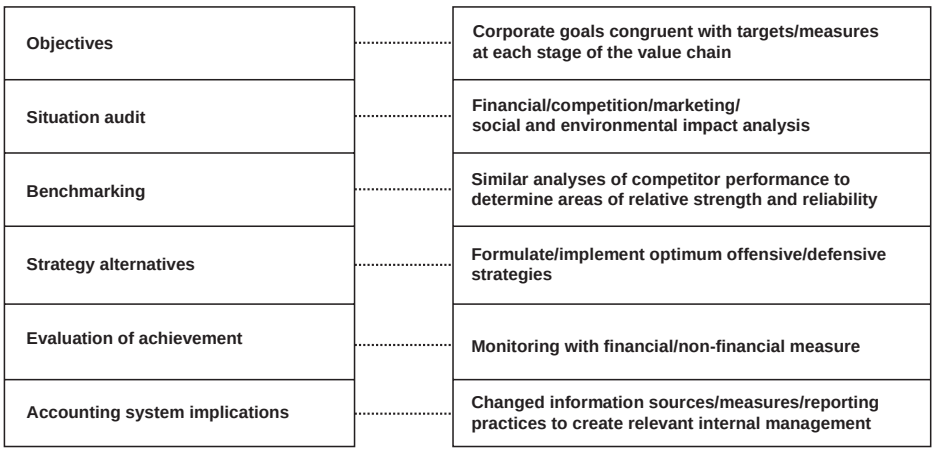
The message from the foregoing analysis is clear. Although the focus on the financials highlights the problems therein, it is the non-financial and the intangible factors which assume the highest priority. Ultimately long-term measures of customer satisfaction, loyalty, credibility and reputation are of greater importance than short-term profitability.

The framework of Figure 3.5 establishes the focus for SMA so that we are able to address both financial and non-financial factors in a flexible manner. Just as the focus moves from company analysis in Porter (1980) to globalization in Porter (1990), there is also a paradigm shift – one which shifts the emphasis to innovation and the impact on competitiveness, but returns to focus on industries rather than economies.

The traditional sources of competitive advantage are entrenched in the economics literature:

- *macroeconomic factors* – advantageous interest and exchange rates, low rates of inflation;
- *government intervention* – to achieve the above through appropriate monetary policies, and to stimulate particular industries through grants/subsidies;
- *economies of scale* – large-scale production and technological leadership which minimize both cost per unit and vulnerability to competition;
- *low labour costs* – contributing to competitiveness through a low cost per unit.
- *management policies* – associated with increased productivity and quality, and reduced inventory holdings and set-up times.

FIGURE 3.5



Framework for strategic management accounting

Although anecdotal evidence exists to support any one of these factors in particular circumstances, the sum total is lacking. Competitive industries exist which do not combine any of these characteristics, suggesting that some explanatory factors are missing. Porter cites the Italian shoe industry as an example: a world leader which combines low technology and high wages, in small family-run companies free from government intervention. The roots of their competitive advantage lie elsewhere, in their ability to innovate and not in the traditional sources above.

Porter (1990) identifies four interrelated key factors (termed the 'diamond') which appear to facilitate innovation and competitive advantage:

- *Factor availability* – not in terms of the usual infrastructure and workforce requirements, which are necessary but insufficient conditions for competitiveness, but access to required specialized and scarce resources. A shortage of required resources may even be a positive factor because it will drive innovations to correct the shortage – for example, space-saving devices in Japan, and labour-saving devices in the USA.
- *Home market* – the size of the home market is less important than its sophistication. Demanding and knowledgeable customers will create the conditions which drive improvement and innovation. Home-market saturation in its turn drives globalization and international innovation.
- *Support industries* – these provide a network for co-operation in problem-solving and information flows relating to new developments and common difficulties. The existence of strong suppliers servicing a cluster of similar industries will mean the suppliers know the business and its problems, facilitating innovative solutions.
- *Rivalry* – local competition will promote aggressive investment under like environmental conditions. The geographic concentrations of competitors will create pressures to succeed through cost reduction and new

model introduction. There are no excuses for failure, as there might be with overseas competitors.

Competitiveness arises out of the pressure which forces continuous progress, and local pressures, far from providing adverse conditions, appear to be beneficial to innovation by establishing a breeding ground for the development of global competitive advantage. We would anticipate the top innovators combining each of these four factors competing in a cluster of industries, in a tight geographical area, with strong common suppliers and a demanding local market. Factor availability in the particular local circumstances drives the precise nature of the innovation. Chance, too, will always play its part; we may be in the right place at the right time or appropriately positioned to take advantage of changes in government policy.

Market SWOT analysis

Competitor analysis embraces the evaluation of the nature of competition and of the potential competitors, and a consideration of the likely actions and reactions of competitors in the market. A similar analysis can be conducted in assessing potential takeover predators or victims relative to market shares, share prices and the structure of shareholdings.

Competition in the market takes five major forms:

- price cutting – often retaliatory in nature, and with the potential to damage the market;
- advertising and promotion – likely to expand the whole market as well as that for individual branded products;
- introduction of new products;
- improved customer service; and
- entry of new companies.

An analysis of one's own position and that of competitors with respect to these forms of competition should reflect:

1 offensive predictability, including
   (a) the level of satisfaction with the current situation, and
   (b) the likelihood of shifts in strategy; and

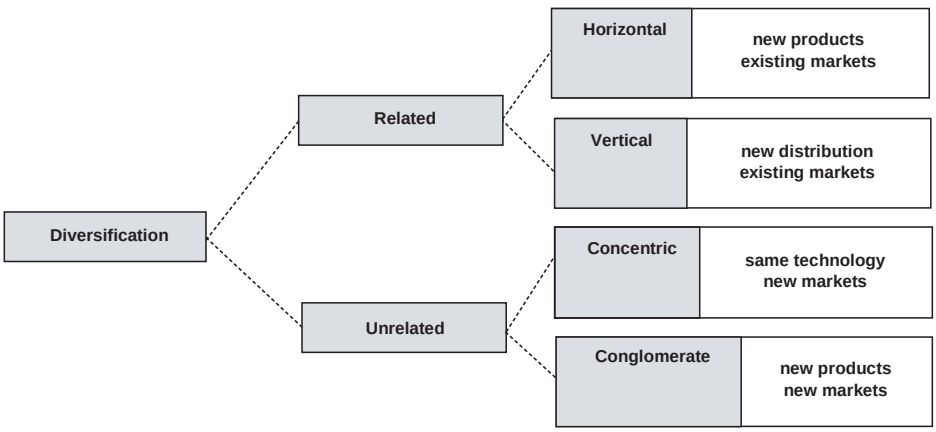
2 defensive capability, including
   (a) areas of vulnerability and
   (b) areas likely to provoke retaliation.

The entry of new competitors is, potentially, particularly problematical because the resultant increase in capacity is likely to lead to in-fighting in a bid to maintain market share. New entrants may be completely new companies but are more likely to be existing companies which are diversifying or which are acquired by competitors.

Porter's generic strategies provide ready-made barriers to the entry of competitors in the form of large-scale production economies, product differentiation and access to niche distribution channels (Porter, 1980). However, even they may not be sufficient to deter a large, determined bidder.

Diversification can take a number of alterative forms depending on the nature of the industry. These are illustrated in Figure 3.6. Horizontal and vertical integration within existing or related markets are often associated

FIGURE 3.6



Alternative markets for diversification

with defensive strategies leading to large-scale production economies and eventual industry leadership.

Conglomerate diversification is the riskiest strategy in terms of the likely outcome, but with the potential to reap great rewards and market penetration. In particular:

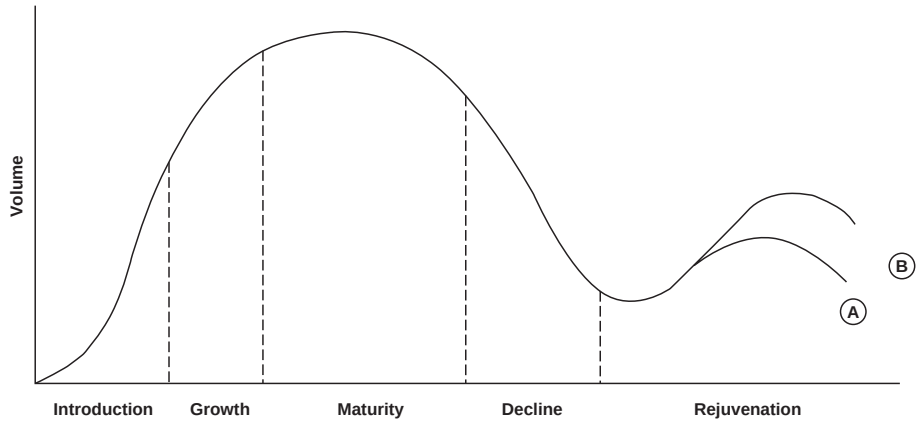
- risks are spread, but so is management strength over diverse interests;
- it opens up new and exciting markets, but ones in which the company may have no experience or expertise, and which may be alien to the corporate culture; and
- while acquired assets may be underperforming, with the potential to improve, they may need the attention of specialists to effect recovery or turnaround.

In the worst-case scenario, a company without market share, capital investment or strength of purpose would be incapable of seeking overall cost leadership. The absence of marketing resources would also make it unable to differentiate products or target specific niche customers. The poor strategic position relative to competitive forces will make it impossible for such a company to pursue any of Porter's three generic strategies with a reasonable hope of success. As a result, the company will sacrifice profitability and high-volume customers because costs and selling prices are too high, and the high-margin, high-quality niche business will be lost to firms which are more appropriately targeted and differentiated.

The *product life cycle* provides a useful framework for the consideration of alternative product strategies and for alerting management to the dynamics of the market and the consequences of inaction. Figure 3.7 illustrates the five stages of the basic cycle.

The cycle begins, appropriately enough, with an *introduction* stage. Some new products diffuse very slowly into their potential market while others virtually ignore this stage, using it as a swift trajectory into rapid growth.

FIGURE 3.7



The product life cycle

A number of factors can contribute to a slow product take-up:

- lack of comparative advantage on price or quality with existing products;
- uncertainty about the longevity of the product, such that consumers perceive a potential risk of, say, failure or technical obsolescence; and
- lack of availability of product information or the product itself.

Producers must invest in promotion (to improve consumer awareness) and distribution (to ensure that the product is on the shelf and available for trial). Warranties and demonstrable after-sales service will reduce the perceived risk of purchase, but may not eliminate it in areas of rapid technological advancement.

The transition to rapid *growth* will be characterized by one or more of three factors:

- a changed relationship with substitute products so that consumers perceive the existence of distinct price and/or quality advantages;
- reduced uncertainty surrounding the likely success of the product so that it gains widespread acceptance and imitators attempt to enter the market; and
- repeat buyers as an element of brand loyalty develops.

Producers must invest in increased capacity to meet demand, expanding both distribution channels and inventory holdings. Product extensions might be added to the basic line.

At the *maturity* stage the growth rate will slow as the target market reaches saturation point. Producers will seek to attract new users while retaining their existing ones. As products become more familiar buyers become more price sensitive and less responsive to advertising, so that producers must focus on quality continuity and competitive pricing, at a time when competitors are likely to be reacting in a similar manner.

The onset of *decline* may be rapid especially if attributable to changes in fashion, or may be more gradual if it results from technological change. Producers will attempt to slow down the decline by focusing on subgroups of customers and by restricting the product line, aiming to stabilize sales at a level which, though below the original, is still acceptable. The rate of decline will depend on the comparative price/quality advantages of emerging products.

After the decline stage comes *rejuvenation*. Producers will attempt to prolong the life cycle through product and user innovation, corresponding to positions A and B in Figure 3.7. One rejuvenation strategy may involve major product improvements and repositioning the product with regard to customer perception (position A). Another could be to seek new distribution outlets, possibly through exports, and to establish new uses for the same product (position B). Only when rejuvenation strategies have failed to arrest the decline and the product is no longer profitable should product withdrawal be contemplated.

The major problem of applying the product life cycle in practice is the difficulty of establishing exactly what stage product development has reached. The position will be product and industry dependent and cannot be forecast simply on the basis of past sales. A product may be designated 'mature' when in practice it has reached only a temporary plateau midway through the 'growth' stage.

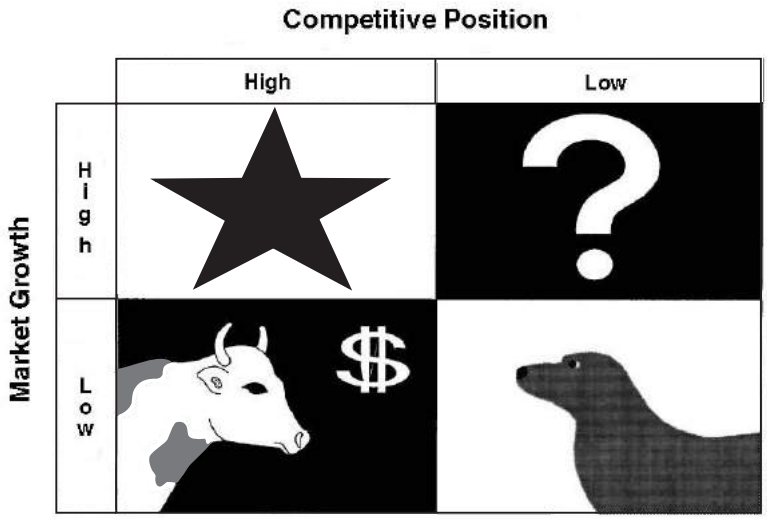
The same kind of market analysis conducted for individual products can also be attempted for companies and individual company subsidiaries. The performance and importance of the subsidiary relative to the parent company can be evaluated to determine the likely strategy of the parent. A number of key questions arise:

- Is financial performance below group expectations?
- Is the subsidiary peripheral, expendable or of strategic importance to the group?
- Does the degree of economic interrelationship within the group make the subsidiary an essential element of the company portfolio?
- Is the product strategy consistent with that for the overall group?
- Is the subsidiary starved of funds because of the competing capital requirements of other subsidiaries?

The Boston Consulting Group (BCG) portfolio matrix provides a framework with which to categorize subsidiaries within a group, or even products within a company. It then facilitates the specification of the strategies to be employed in the promotion or demotion of individual companies and products. At its inception (Henderson, 1970) the BCG model revolutionized strategic planning, and facilitated the development of alternative portfolio planning methods (e.g., Miles and Snow, 1978; Covin, 1991) helping management to understand how each of its businesses contributes to the whole and clarifying the overall picture. They have provided an information source to formalize the identification of weak businesses and shift resources into those with more promise. Overall they have provided the data to improve the level of analysis in the strategic planning process, with the potential for eliminating observed weakness.

The BCG portfolio matrix provides a useful framework for the analysis of a 'whole' into the sum of its component parts, to determine the extent of the synergy existing in the 'whole'. By allocating

FIGURE 3.8



Portfolio matrix

subsidiaries/products/customers to distinct categories we can clarify overall group strategies or highlight the impact of changes in the product or customer mix.

Figure 3.8 illustrates the BCG matrix, mapping industry leadership and associated competitive position against market growth. On the vertical axis the market growth rate provides a measure of market attractiveness, while on the horizontal, relative market share measures the competitive strength in the market.

A market growth rate in the range 0–20% would be normal. A market growth rate for any individual product/company in excess of 10% is high, and 10% is, therefore, normally used as the cut-off point between the upper and lower quadrants. The relative market share measures the company's strength relative to that of the largest competitor. A log scale is normally used on this horizontal axis so that equal distances represent the same percentage increases. A value of 1.0 is used as the divider of the quadrants into left-and right-hand sides. Values less than one (right-hand side) demonstrate low market share, while those greater than one (left-hand side) identify market leaders.

By positioning subsidiary companies on a map graphing competitive position against market growth we can classify them as follows:

- *Cash cows*. In a mature market in which they are strongly positioned so that few investment resources are needed but consistent cash outflows are generated. Cash cows are market leaders, despite an annual market growth rate below 10%. They enjoy economies of scale and high profit, but these might be drained by supporting the rest of the group.
- *Stars*. The market leaders in the portfolio; profitable and high-growth businesses but still requiring extensive injections of investment and

promotional expenditures to maintain their position and reputation. Eventually their growth will slow and they will be turned into 'cash cows'.

- *Dogs*. Uncompetitive in static markets. No further promotional or investment expenditure is justified and elimination might be considered unless they occupy a strategic role in the portfolio. They may earn sufficient cash to maintain themselves, but little more.
- '?' Competitive operations but still to make a significant market impact. Barely profitable at present, they have the potential to become 'stars' but require large-scale investment to do so. A question mark hangs over their future such that if their market penetration is insufficient to justify further investment they will decline to a 'dog' position.

Four basic strategies emerge from the matrix:

- Build – increase market share, even at the expense of short-term profits, by turning 'question marks' into 'stars'.
- Hold – preserve market share.
- Harvest – increase short-term cash flow, perhaps without adequate regard to its long-term effects, for example by using 'cash cows' to fund other businesses.
- Divest – eliminate those businesses whose use of resources is inefficient and which are sufficiently peripheral to the rest of the group to merit abandonment. These will usually be the underperforming 'dogs' and 'question marks'.

A group managing its subsidiaries, or a company managing its products, must aim for a balanced portfolio. This means a combination of market leaders, new ideas and cash generators. An unbalanced portfolio would have too many 'dogs' and 'question marks', and too few 'stars' and 'cash cows'. Too often, in practice, a company or group portfolio is entirely in the 'question mark' sector, with no funds to promote success, or entirely in the 'dog' sector, with no new products on the horizon and very little by way of future optimism.

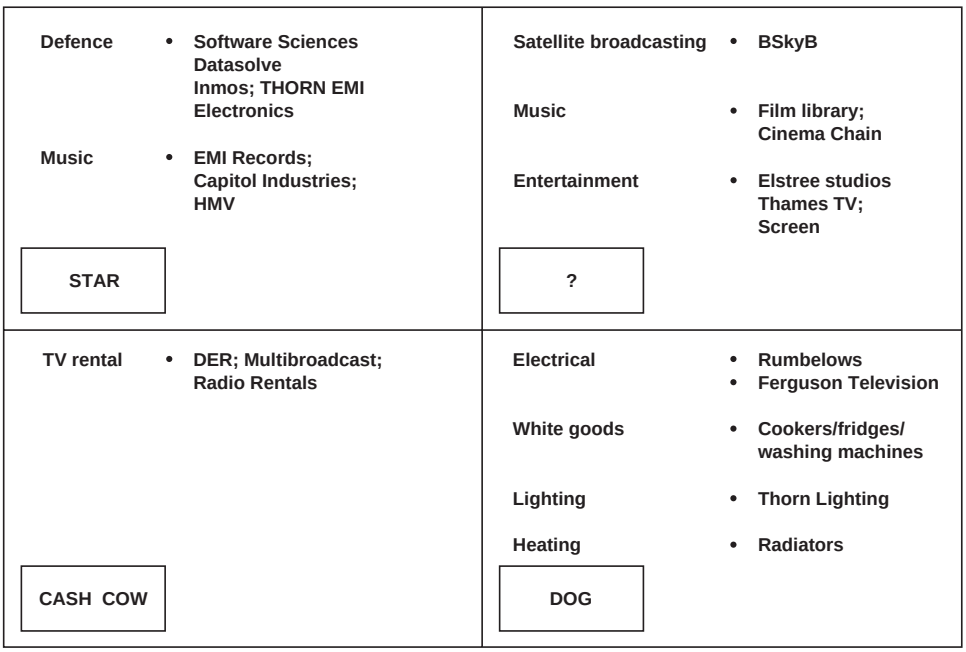
To illustrate this method, consider the position of Thorn EMI. Based in the UK, Thorn EMI once manufactured and distributed its products throughout the world and comprised a number of well-known subsidiaries in diverse markets. We will consider their position as it stood in 1986, since it is no longer commercially sensitive. The products and market areas of interest might be positioned in the grid as indicated in Figure 3.9. Identifying the subsidiary companies, we find a plethora of once household names.

An ideal strategy is delightfully simple:

- divestment of unprofitable 'dogs', notably in the white goods and brown goods area;
- employment of funds from the 'cash cows' to promote high-technology stars and new developments with 'star' potential; and
- use of film stocks, music rights and the entertainment structure to provide software for success in the cable TV and satellite broadcasting spheres.

Unfortunately, in practice, the company had far too few high-yielding 'cash cows' and too much debt to provide the funding for such a diverse portfolio. Despite the divestments and a rights issue, a blow-out of costs and delays

FIGURE 3.9



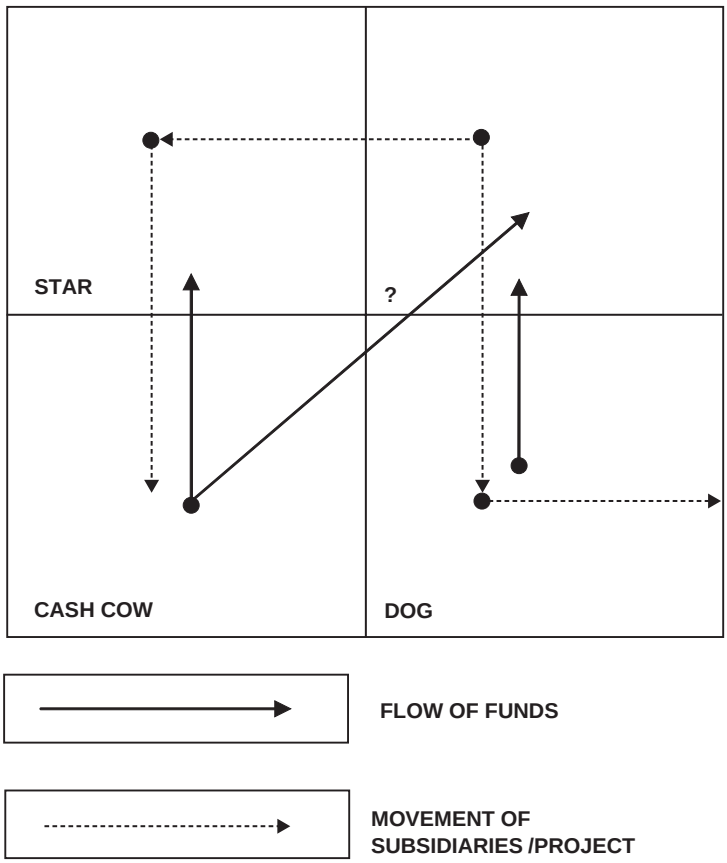
Thorn EMI portfolio matrix

in implementation in the satellite broadcasting arm spread available funds too thin. Screen Entertainment and most film distribution rights were sold in April 1986. Thorn EMI was forced to withdraw and focus on the core records and rentals businesses, largely abandoning an imaginative and potentially successful growth strategy. The bulb division was sold to General Electric (US) in 1990, and the heating operations to Blue Circle in the same year; the rest of the lighting division was the subject of a management buy-out in 1993. The Rumbelows electrical chain closed in 1995, and in 1996 Thorn EMI demerged, with the music (EMI Group) and rentals (Thorn) businesses becoming two separate entities. HMV Retail was spun off as a separate business in 1998, then subsequently sold in 2002. EMI's restructuring has continued into 2003/4 with the outsourcing of CD and DVD manufacture, and, like most other music companies, EMI has suffered both from the downturn in music sales and the impact of piracy.

In general terms, we would expect an optimum strategy to fit that described by Figure 3.10. The adoption of a group perspective to the matrix would seek a balanced portfolio by shifting funds between the component companies:

- Use of funds made available by the 'cash cows' to promote both the 'star' performers and those with the potential to become 'stars'.
- Management of 'dogs' to ensure that they are not a cash drain; unless they generate even marginal positive cash flows, divestment must be considered an option.

FIGURE 3.10



Strategies under portfolio matrix

- The nurturing and support of the 'stars' to maintain their market prominence may eventually be rewarded with 'cash cow' status – market leadership in a mature sector.
- The portfolio must always have its '?' quadrant as a feeder for the future. 'Star' performers will emerge here but will require careful management and an eye for the strategic withdrawal if the profits and market penetration required do not arise.

The main priority of 'star' companies or products will be to maintain their competitive position in order to be able to assume 'cash cow' status when the market eventually matures and growth slows. Both 'cash cows' and 'dogs' must be managed in a way which avoids major investment and promotes cash flow. The balanced portfolio will provide both cash-generation potential and plentiful growth opportunities. The most difficult decisions arise with regard to the 'question marks', in judging the extent to which they should be funded while the market is maturing and the advisability of a strategic withdrawal if the required growth does not eventuate. It is unsurprising, therefore, that they are often referred to as 'problem children',

in need of constant and often painful attention if they are to reach their full potential!

Such models are not without their limitations. They can be costly and time-consuming to construct and implement. Data collection may be difficult and subject to manipulation so that the assignment of companies to cells is somewhat arbitrary. They focus on the present rather than the future, so that managerial judgement is still required to make innovations and resource movements. A blinkered approach to the development of a 'balanced portfolio' based on market-share growth may have unfortunate consequences, especially if the group decides to:

- diversify into areas/industries of which it has no experience or expertise;
- over-milk 'cash cows' to finance the rest of the business, so that they are unable to maintain market leadership without reinvestment;
- abandon healthy mature businesses still capable of recovery or of continuing to make a positive contribution to the group;
- neglect the management of current businesses;
- neglect inter-business relationships, so that each business is appraised separately without reference to the services it provides to other parts of the business;
- invest unwisely in 'dogs' in the hope of securing recovery in what are hopeless causes; and
- maintain too many 'question marks' in the portfolio, so that it is impossible to fund them all adequately.

The BCG portfolio matrix is simple – perhaps too simple – in design. We may have to make assumptions about the classification of some components. Their precise positioning in the matrix will be even more difficult since it requires some quantification and ranking. But despite the difficulties, the BCG matrix does facilitate an overview of group activities and avoids a blinkered focus on individual components. The strictest interpretation of the BCG matrix suggests that organizations involved in the portfolio planning process are internally self-financing, and that there is no close relationship between any of the participating organizations. These limitations, among others, have led to the BCG matrix becoming much less popular than it once was, though the contribution made from recognition of different positioning in the matrix, and hence different treatment, remains powerful. Though its resource allocation role has become unfashionable, the matrix can still be useful in addressing strategic issues.

Social and environmental SWOT analysis

The SWOT analysis must extend to social and environmental factors (in a triple bottom-line approach) in order to be able to predict and, if possible, to quantify changes on the company and its products. Among the factors that should be considered are:

1 *Economic*. These include:
   (a) the growth rate of the economy;
   (b) changes in interest rates;
   (c) changes in exchange rates;

(d) the rate of inflation; and
(e) the impact of inflationary or deflationary economic policies.

2 *Political*. These include:
(a) the effects of environmental pressure groups;
(b) the effects of changes of government (for local or overseas trading partners);
(c) the effects of particular political policies; and
(d) the impact of regulations, codes and guidelines.

3 *Legal*. These include:
(a) the issuing of new patents and licences;
(b) product liabilities; and
(c) health, safety and employment law.

4 *Technological*. These include:
(a) trends in related products and manufacturing capability;
(b) impact on markets;
(c) impact on production capacity; and
(d) impact on individual products.

5 *Demographic*. These include:
(a) effects of climatic variation;
(b) availability of natural resources;
(c) changing age distribution of the population and consequent variation in consumer demand and social expectations; and
(d) growth in population.

Companies should be able to predict and, wherever possible quantify the impact of social and environmental changes on their products and markets. It is instructive to consider each of these five factors in more detail, focusing on the economic and political factors to investigate environmental models developed to assist management decision-making.

Economic factors

Companies must be aware of the extent to which the key economic indicators will impact on their business and the likelihood of their direction of change in the future. Changes in interest rates will impact quickly on those in the construction industry and all companies reliant on short-term debt; changes in exchange rates will impact on those trading in overseas export markets or who rely on overseas raw material or component sources; the rate of inflation and the growth rate of the economy will impact heavily on the spending power of consumers. Changes in government policy, particularly the use of deflationary policies will have a similarly negative effect on the availability of discretionary expenditures.

For companies highly exposed overseas and whose export markets and investments are vulnerable to changed economic circumstances, economic risk analysis is vital in the evaluation of trading partners. Commercially available economic risk indicators monitor the risks associated with doing business overseas, and are particularly useful when the trading partners are less developed countries or unstable political regimes. The economic risks of concern would include the following (many of which cannot be divorced from political factors):

- deteriorating trading conditions;
- lack of demand through a shortage of foreign exchange;

- imposition of import controls or tariff barriers;
- default on payment;
- punitive measures for foreign investors; and
- restrictions on the repatriation of profits.

Publicly available information can give a good indication of trading partners whose economies are not sufficiently robust to ward off short-term difficulties. These are frequently those associated with:

- susceptibility to adverse climatic conditions;
- vulnerability to swings in basic commodity prices;
- single-commodity export economies;
- countries with a single export target, increasing vulnerability to protectionism; and
- incidence of political unrest.

Close monitoring of the balance of payments situation and the foreign debt position over time can be very revealing. Taffler and Abassi (1984) detail a discriminant model measuring economic risk, in terms of likelihood of debt rescheduling, as a function of wealth, external indebtedness, rate of price inflation and monetary policy. They suggest the model

$$Z = a + bX_1 + cX_2 + dX_3 + eX_4,$$

where $Z < 0$ indicates an economy exhibiting signs of distress through a profile resembling previous cases of debt rescheduling; X_1 is the ratio of debt to exports, X_2 the ratio of loan commitment to population, X_3 the consumer price index, and X_4 the ratio of domestic credit to gross domestic product. The model works well, particularly for less well-developed countries (though less well than the equivalent models based on company failure detailed elsewhere). They do not reflect instability due to either political unrest or single-commodity economies, and we might speculate on their being improved by the inclusion of political risk analysis variables.

Political factors

Companies need to be aware of the impact a change of government or political policy would have on their products or customers, as well as the more indirect impact of the machinations of environmental pressure groups. The imposition of new regulations (e.g., exhaust gases for motor manufacturers, or CFC emissions for refrigeration and air-conditioning producers), and changed acceptability of smokestack pollution resulting from well-orchestrated protests, will change both product and customer attitudes. For companies highly exposed to export markets or with overseas subsidiaries, governmental changes have the potential to threaten foreign investments and disrupt income streams. Many of the political changes at home, and their environmental consequences, are predictable, but it is important that the social ramifications are deemed to be acceptable. Those changes taking place overseas might present nasty surprises unless some form of political risk analysis is undertaken.

The modelling of political outcomes on the basis of alternative risk scenarios is well established commercially and indicates the level of risk associated with particular overseas trading partners. If political developments

are not taken into account they can bear heavily on a company's ability to conclude a contract on time and in profit. Political or social conflict can lead to political instability and politically motivated violence directed against personnel and/or facilities. These might include acts of destruction, bomb extortion or product contamination (targeting physical assets) or kidnap and intimidation (targeting key personnel). Such acts may be perpetrated to prevent contracts being completed, impacting upon all those who are part of the investment cycle.

While it is difficult to make absolute predictions about eventualities, it is possible to assess the probabilities of change and their likely impact on a business. The evaluation and forecasting of investment decisions in dangerous locations must include the risk of adverse political actions. In this way the analysis of political risks ensures that managers make decisions in the full knowledge of their potential consequences.

Legal factors

Companies must closely monitor trends in legislation worldwide to give an early indication of likely changes, so that their impact on the business can be gauged in time to take appropriate action. Some products may have to conform to national legislation while also following international guidelines. Regulations which protect consumers (e.g., product liability and misleading advertising) will constrain the way a product is made and sold; regulations which protect employees (e.g., health and safety, employment law) will impact on the profitability of the workplace; regulations which protect companies from each other (e.g., patents, licences, anti-trust legislation) may impact on a company's acquisition or diversification strategy; and regulations which protect society (e.g., heritage listings) may force companies to take a longer-term perspective than would otherwise be the case. Changes in any of these areas could have a critical effect on product planning and business survival.

Technological factors

Companies must be aware of technological changes regarding their own and related products so that they can respond appropriately and eliminate, or at least alleviate, their impact on markets. They must not focus on technological wizardry to the exclusion of all else, when it is not the major factor determining customer purchase patterns. For example, Sony's Betamax may have been technically the more advanced video-recorder, but the superior marketing efforts of JVC ensured that VHS became the industry standard; similarly, Kodak's slow reaction to the advent of digital technology in cameras threatened the prosperity of the enterprise. Now the growth of DVD technology for playing and burning recorded information, and the availability of this material both over the internet and through digital TV providers, will threaten the livelihoods of many in the entertainment sector, most immediately in the retail sale and rental of pre-recorded material.

Technical advances in machine tools and operating technology will impact on manufacturing capability with the potential to create instant obsolescence. The advances in computer-aided manufacturing and design through, for instance, desktop publishing have changed the face of the print and newspaper industries. Those companies unable to foreshadow and respond to the changes have departed from the scene.

Technological change increases customer expectations in individual products (e.g., safety features in motor vehicles) so that producers have to

be flexible enough to respond to remain competitive. Companies that fail to respond to such changes will soon find their product outdated and will miss new product opportunities.

Demographic factors

Population changes will be of interest to all companies and a vital feature of any marketing plan. The density, location, age, gender, race, ethnic diversity and occupation of target consumer groups will determine both the nature of the product, the public's attitude towards the product and the manner in which it is marketed. The ageing of the population, attributable to declining birth rates since the 1960s and greater life expectancy, has brought a response from companies in different marketing strategies and new products to cater for a changed lifestyle. The 'baby boom' population group ceased to be the most dominant group at the turn of the century and companies must be flexible enough to respond to the increased geographical mobility, earning potential, unrealized product preferences and social awareness of the new dominant groups – Generations X and Y.

There has been only limited success in the development of environmental prediction models, with the most successful being those in the economic and political areas. Even these have been relatively weak compared to their financial counterparts, because they lean on scenarios which are highly interdisciplinary and which require data inputs from many alternative sources.

Despite these difficulties, a sound appreciation of the direction of change and the lead time before newly imposed environmental factors have a significant impact can be gauged from parallels in other countries. Estimates of the quantitative effects on particular countries can then be made on a best-case, worst-case or most likely basis.

The following case concerns the development of a strategic direction for a family company which simultaneously faces problems of succession. It provides an opportunity for identifying the strengths and weaknesses of the firm's current position, diversification opportunities and threats to its survival.

CASE STUDY

Westlake Printing: A SWOT case study

Tony Belton founded his printing company over 30 years ago and has proudly maintained the family ownership since. Now he is in ill health and knows that he must soon release the reins of the company he so cherishes. Worse, none of his three children shows the slightest interest in involvement in the business so that it seems his successor must be an 'outsider'. He recognizes that the problem is of his own making because his autocratic control, decision-making without consultation and refusal to take on debt to fund the growth of the company have not endeared him to senior management.

Nevertheless, the workforce idolize him and most are on first-name terms. Many have been with him for over 20 years and have seen the business grow to the largest in the North-West of England. Their loyalty is not in question, and neither is the technical

CASE STUDY (cont.)

competence of senior management – but they have rarely had the opportunity to 'manage' in any real sense.

The relative isolation of a Cumbria-based enterprise has always aided the growth of the company because competition has been negligible. Now the situation is reversed because continued growth and diversification are largely dependent upon increased penetration of the bigger markets in South-East England and East Anglia.

Tony is well aware of the challenges and opportunities currently facing the company (e.g., the environmental edge possible with recycling and diversification into computer software) and of likely threats to its stability (e.g., the spread of street-corner 'cowboy' franchises, wayward internal communications, the need to import expensive new technology to stay competitive and, worse, the possibility of government intervention if market share is perceived to be too great).

Latterly he has begun to pay more attention to internal efficiency and improving the bottom line even if sales growth proves impossible. He has focused on four key areas of internal efficiency:

- *Process improvement* – by balancing cost and quality in determining optimum machine speed; by eliminating non-productive downtime.
- *Plant layout* – by seeking a more efficient design.
- *Information systems* – by computerizing the primitive manual operations control for costing and scheduling so that quotations can be nearer the mark both on cost and time.
- *Client education* – by establishing a 'quality' goal which makes the inferior product and service of competitors unsatisfactory.

Performance appraisal is currently undertaken with the help of a set of financial and non-financial indicators. The financial indictors are profitability (return on assets), sales revenue, gross margins, gearing, and the number of days debtors are outstanding. The non-financial indicators are customer complaints (registered and resolved), spoilage rates, percentage of quotations successful, direct labour productivity, and percentage cost variation (actual versus quotation). Despite the availability of existing control data, Tony feels that much of the management effort is misdirected and that new initiatives are essential if meaningful improvements are to be achieved. He wishes to identify alternative strategies for the future direction of Westlake Printing, which capitalize on priority improvement opportunities while reducing its vulnerability to outside influences.

CASE ANALYSIS

SWOT analysis is a useful starting point in highlighting the critical factors impacting on Westlake Printing. Reference to Table 3.3 suggests that the correction of current weaknesses and the pursuit of diversification opportunities represent the priority targets for Westlake.

CASE STUDY (cont.)

TABLE 3.3

SWOT analysis for Westlake Printing

Strengths	Weaknesses
• Secured markets • Superior product • Committed and competent employees • Absence of debt financing	• Lack of empowerment • Manual management information systems • Inefficient plant layout • Process inefficiencies
Opportunities	**Threats**
• Larger markets in the East and South East • Environmental edge • Computer software diversification • Debt financing	• Low entry barriers • Wayward internal communications • Technology requirements • Government intervention

A focus on *weaknesses* yields internal improvement opportunities to address clear deficiencies:

- Quality improvements – establish quality standards and ensure compliance.
- Process improvements – eliminate non-value-added activities and improve plant layout. Both will contribute towards improving the quality of the final printed product.
- Information and technology improvements – establish a costing system that will produce accurate numbers in which management have faith. Consider using activity-based costing, depending on the extent of overheads and product diversity.
- Product differentiation improvements – invest in the resources required to exploit their environmental edge.
- Communication improvements – empower managers with appropriate authority to facilitate two-way communication of information useful for strategic decision-making at upper levels of management, and operational decision-making at the shop-floor level of personnel.
- Management accounting information systems clearly need addressing, through the provision of performance indicators to improve management control. Those indicators related to the printing process would include: downtime as a percentage of total available machine time; time between machine failures; time between overhauls; time spent on repeat work; average time to effect repairs; total time in backlog jobs; number of final units lost through maintenance; number of repeat jobs; number of backlog jobs; percentage of failed jobs; preventative maintenance, corrective maintenance and breakdown maintenance, each as a percentage of total maintenance; cost of lost production; overtime hours

CASE STUDY (cont.)

as a percentage of total hours; overtime costs as a percentage of payroll; throughput time (time taken from start to finish of job); set-up time; number of component parts per printing job (to determine product complexity); space occupied by printing activities; and distance materials moved. Those related to the final product would include: percentage completion of units (actual versus target); percentage of stock-outs (materials not in stock); cost of quality; percentage dependence on post-inspection; and percentage conformance to quality standards. Those related to market would include: percentage local volume; percentage South East volume; percentage of expenditure devoted to research and development; percentage new product innovation; percentage increase in market share; new customers as a percentage of total customers; index of competitive value; and index of vulnerability to competition. Those related to employees would include: index of educational attainment; cost of recruitment error; percentage training costs; percentage of staff turnover lost to competitors; percentage absenteeism; cost of employee downtime; index of leadership impact (e.g., percentage of cancelled meetings); new employees as a percentage of total employees; and employee productivity (i.e., standard hours achieved as a percentage of direct and indirect labour hours worked). Finally, those related to customers would be: percentage approval rating; percentage repeat orders; number of overdue deliveries; and average delivery delay.

Which of these additional measures Westlake choose to collect, analyse and disseminate will depend on the perceived cost-benefits attaching to their use. A number of opportunities exist for Westlake to change the strategic direction of the business, many of them consistent with Porter's generic strategies of seeking cost leadership, differentiating the product, and targeting new sectors of the market:

- expansion into the South East and East Anglia at a time of financial strength;
- use of existing liquid resources to diversify into new areas by buying appropriate companies;
- use of the existing capability to move into the writing and marketing of software programs;
- seeking industry leadership by purchasing the most up-to-date equipment available, and exploiting economies of large-scale operation;
- differentiating the existing product to gain a significant competitive advantage – this might embrace an expansion of the current product range to include colour copying and book publishing;
- exploiting the advantages associated with non-financial factors, notably quick, dependable, efficient and high-quality service; and
- expanding the existing market for recycled products and provide an accompanying professional service to exploit public recognition as the source of acknowledged expertise.

CASE STUDY (cont.)

The weaknesses/opportunities identified above will provide a suitable starting point for the implementation of a systematic process (similar to that developed in Chapter 7) for prioritization of issues and the development of implementation strategies.

BENCHMARKING

A number of articles (e.g., McNair and Leibfried, 1993; Barber, 2003) have argued the benefits that can be achieved by benchmarking without providing hard evidence which justifies the time and expense involved. This section gives an indication of the practical improvements in management accounting information systems that can be achieved, using evidence from the author's involvement in the implementation of the benchmarking procedure within a large Australian manufacturing enterprise.

That we can benefit from sharing the experiences of others has never been in doubt. Benchmarking provides the opportunity of comparing performance across sites and between companies to give an indication of current best practice. Provided that the exchange is restricted to non-confidential information, the transaction is potentially rewarding. The realization that others do something better than oneself can be a great motivator to improved personal performance.

Unfortunately, management accounting information systems tend to be trapped in a fortress mentality within each company, preventing the efficient operation of benchmarking procedures. New initiatives are required to foster an attitude of co-operation with which to improve the competitiveness of all participants.

A number of barriers currently prevent the efficient cross-fertilization possible with benchmarking:

- Intercompany transfers are largely confined to the audit function, focused around tax and financial accounting. Financial comparisons with competitors are fraught with danger and unlikely to yield long-lasting benefits.
- A fear of revealing information which is of benefit to competitors (inside or outside the company) without receiving corresponding benefits, which acts to foster a defensive mentality.
- A fear that any benefits from co-operation will be one-sided – that the company will give but will not receive. A lack of preparation in this respect may result in closed-minded attitudes which ensure that no one reaps the full benefit of any collaboration.

All of these apparently insuperable obstacles can be easily overcome by shifting the focus away from contentious issues. This can be achieved by:

- collaborating not with competitors, but with companies engaged in similar fields, with like processes, but different markets;

- focusing on the process – what we do and how we do it – rather than on the numerical outcomes and key results; and
- tackling service-related areas or the adoption of new technologies, where collaborators are likely to be grappling with the same problems or experiencing like teething troubles.

CASE STUDY

Process Industry: A benchmarking field study

In this context, a benchmarking procedure was undertaken by a large Western Australian company with regard to the provision of its management accounting information services throughout that state. The company, the world's largest in its field, mines bauxite ore and refines alumina at three plants in Western Australia, exporting most of its product. It does have Australian competitors, but these were ignored for the purposes of the benchmarking operation.

Benchmarking was conducted in the context of a much wider total quality management (TQM) process. As part of the search for improvement opportunities, and the implementation of cost-effective solutions, three questions were posed:

1 What do we already do well?
2 What do we not do as well as we should?
3 What do we currently not attempt to do, but might?

Comparisons with other organizations were sought to provide answers to these questions and insights into the way other companies operated in the provision of similar services. Six large Western Australian process-based manufacturers, of comparable size, were selected for the purpose. All agreed to collaborate without hesitation. The two-way transfer of information and the mutual benefit of such transactions were emphasized throughout, so that both parties to the exchange were prepared to be as open as possible in all dealings. For each company the chief accountant and management accountant were asked to discuss key aspects of their roles within the following guidelines:

- *Accounting organization*. The number of accountants, their responsibilities, location and clerical support.
- *Systems*. Accounting systems and computer facilities; hardware and software compatibility and user-friendliness.
- *Reporting*. The timing, content and format of performance reports – their emphasis and target audience.
- *Planning*. The incidence, frequency and detail of short-term budgeting and forecasting, and long-term strategic planning.
- *Cost control*. The measurement and management of physical parameters and financial outcomes in key result areas.
- *Analysis*. The evaluation of business impact, performance analysis and commitment to TQM.

CASE STUDY (cont.)

The findings of the survey demonstrated a great diversity of systems and procedures, representing the heights and depths of current practice. Interestingly, the survey indicated that the philosophy of TQM in the accounting area was not then well advanced. Indeed, considerable encouragement was gained from a recognition of the inadequacies of the systems operated by other manufacturers. This served to ameliorate somewhat the earlier depression of the accounting group with regard to the provision of their own services! More significantly, and of great concern, a number of common areas of deficiency were apparent, representing opportunities for all to make improvements of varying degrees.

The survey revealed a widespread absence of integrated, centralized database *systems*. Only one company integrated costs, budgeting, payroll, supply and accounts payable, as well as incorporating variance analysis. At the other extreme, three companies relied heavily on unlinked manual procedures, without any integrated on-line information system.

The inflexibility of systems frequently necessitated the downloading of information (manually) on to personal computers (PCs) in order to generate useful reports. The extent of this reliance on manual systems, particularly in the mine sites (where they were in the form of diaries, handwritten logs or card-based records) was surprising, and in sharp contrast to the refineries. The absence of PCs, and the consequent manual generation of reports, including hand-drawn graphs and diagrams, was remarkable given the relatively advanced information technology available even in the 1990s, but was attributed to the harsh physical conditions.

Many systems comprised a ramshackle assortment of hardware and software – including mainframes, networks, standalone PCs, home-grown software, and ready-made, purchased software – which were often not fully compatible and which necessitated an alarming degree of keying and rekeying of data. In far-flung outposts, 'HB' computer systems were common – entirely pencil-driven systems requiring extensive manual operation to pull together diverse items of information.

The timeliness of monthly *reporting* was not perceived to be a problem, even though only two companies generated routine reports within five working days. More apparent was the lack of focus for formal reporting. In particular, the survey revealed:

- a lack of any clear executive statement on corporate strategy which frequently made it impossible for management to pursue clear, coherent goals;
- a profusion of reports, prepared for nobody in particular, and with no apparent impact on the decision-making process;
- an absence of reporting downward through the organization, leaving supervisors in the dark regarding objectives, achievements and expectations;

CASE STUDY (cont.)

- a lack of user-friendly, managing-director-proof, executive-level information systems – most executives did not access accounting systems on-line, despite the observed need to do so, apparently because of the complexity of those systems;
- an emphasis on reporting upwards, matched by a pessimistic perception that such reports might be largely superfluous to requirements, merely providing historical documents containing information that was available in a more timely manner from other sources.

NFIs were in common use in the *measurement of process performance*, but only two companies combined them with financial indicators in a single report. NFIs were much more of a problem in service areas where a diversity of approaches was apparent in both scope and definition. Alarmingly, only one enterprise conducted detailed post-project audits of capital expenditures to evaluate relative costs and benefits. Measures based on inter-site or interdepartmental comparisons were universally absent, even where the potential for such meaningful measurements was apparent. The overriding impression was one of management accountants as number-crunchers – too busy collecting and disseminating information to be able to spend the time to analyse and interpret its key features in a way which was meaningful to the user.

Overall, the benchmarking exercise was useful in a number of important ways, providing these responses to the questions posed earlier:

1 *What do we already do well?* The accounting group were encouraged that they were doing a good job. In most respects in-house systems were perceived to be superior to those of comparable companies.

2 *What do we not do as well as we should?* It was recognized that there were immediate opportunities for improvement available because current performance fell short of industry benchmarks. Most notably, the company could:
   (a) provide an executive-level interface allowing the on-line transmission of key results and corresponding trend data;
   (b) review the content and presentation of internal reports relative to observed customer needs; and
   (c) abandon some traditional reporting practices, deemed to be either irrelevant or inappropriate.

3 *What do we currently not attempt to do, but might?* The company recognized a potential for further improving systems by:
   (a) questioning the extent of variance reporting;
   (b) implementing a systematic post-audit of capital expenditure projects;
   (c) devising and monitoring financial and non-financial measures across plants to allow and encourage the comparison of performances; and

CASE STUDY (cont.)

(d) integrating non-financial and financial measures by developing software which aggregated the key features of the accounting and technical operating systems.

Changes implemented as a result of the study improved customer service and provided the basis for a more informed survey of customer requirements.

The success of this benchmarking exercise was greater than expected, encouraging its extension to other management accounting issues and other process manufacturers. Provided that the ground rules are established and observed, such initiatives have the potential to provide considerable benefit to all who participate.

Although this application was based within a large manufacturing organization, the benchmarking procedure was confined to service aspects of the organization. The principles adopted are equally applicable to small business and non-manufacturing organizations.

RESOURCE-BASED VIEW OF THE FIRM

The resource-based view (RBV) of the firm, based on the seminal works of Coase (1937), Selznick (1957) and Penrose (1959), views the firm as a bundle of resources and capabilities. The resources confer distinctive competences, so that the firm's performance is dependent on how it deploys them. The focus is very much internal, on factor market imperfections and the lack of transferability of corporate resources, and in many ways complements the external focus of the industry analysis view made popular by Porter (1980). The competitive advantage of the firm is then attributable to a set of specialized resources and capabilities that are scarce, difficult to imitate and difficult to trade (see, among others, Dierickx and Cool, 1990; Barney, 1991; Peteraf, 1993).

Theorists (e.g., Andrews, 1971; Wernerfelt, 1984; Grant, 1991; Stalk et al., 1992) recognize the importance of difference between firms and the way in which distinctive competencies and capabilities contribute to competitive advantage. Schmalensee (1985) and Rumelt (1991), among others, note the contribution that a resource-based view of the firm has made to our understanding of how profitability can be maintained over long periods independent of industry conditions. Indeed, Rumelt notes that firms often differ more from those in their own industry than they do from those in other industries. The rise in popularity of the RBV approach can largely be attributed to the Prahalad and Hamel (1990) paper on 'core competencies'. They defined these competencies, that core of skills and capabilities within the organization, as being the unique sources of value creation which held the organization together. The search for the development of corporate strategy based on core competencies led back to the RBV approach,

and the recognition, first of those assets of a business which could be described as 'unique and valuable', and then of how these might be applied in new businesses or industries. RBV recognizes the unique and valuable role played by such as brand names and technologies, but highlights the need for continuous investment to maintain their critical role. Collis and Montgomery (1998: 162) highlight the manner in which Disney rebuilt its brand name in the 1990s and then sought to leverage the advantage provided by its cartoon resources (its 'Crown jewels') into new markets – by the transfer of the latest cartoon characters into all aspects of the business (theme parks, studios and consumer products).

Ambrosini (2002: 141) demonstrates how the RBV approach addresses the seven Cs of strategic management – context, competences, culture, competition, change, corporate strategy, and control – to illustrate how it is consistent with alternative approaches:

- *Context*. There is little attention to the external environment, so the RBV approach may complement the more traditional five-forces approach (Porter, 1980) in this regard. However, the absence of attention is deliberate – the external environment is viewed as common to all and not a generator of sustained competitive advantage.
- *Competences*. Since most tangible resources can be purchased, traded or replicated, intangible assets become the most important strategic resource of the firm. Hamel and Prahalad (1994) make it clear what are not included in the classification of 'core competences' – fixed assets, distribution channels, brand names, patents, etc. – in fact anything that might appear on the company's balance sheet!
- *Culture*. Organizational culture can encourage innovation, flexibility and the development of know-how. Barney (1991) suggests that because culture is complex and difficult to observe, it will yield competences which are difficult to imitate, and which may confer advantages. Tacit knowledge will usually be organization-specific, and depend on specific interpersonal relationships; it is likely that it will play a key part in the development of competitive advantage.
- *Competition*. Competition based on the use of internal resources means that firms must act to protect the advantages conferred by their current resources since these may be eroded, and eventually made obsolete, by environmental and technological changes. Firms must therefore act to improve their existing resource base and to build new resources.
- *Change*. The focus on intangible resources, and associated strategies, may cause great difficulty in practice. It may not be clear how they are creating competitive advantage, so that the absence of causal relationships make change strategies unpredictable. On the other hand, if managers cannot specify a cause, then neither can competitors, so they will find it impossible to imitate the source of competitive advantage.
- *Corporate strategy*. The resource-based approach supports diversification in order to transfer specific resources to new markets – as illustrated by the Disney strategies above. The exploitation of 'resource relatedness' may confer benefits in other business units, but the problem of 'resource specificity' may arise – the transfer may not be feasible, so that firms need to develop bespoke strategies.
- *Control*. If a firm is to control its rare and valuable resources, it first needs to establish what these competences are and who has them. But as we

saw above, not having a clear understanding of such relationships may be helpful, because it prevents imitation by competitors. This is a problem for management: inaction may make them vulnerable to a loss of key resources, but inappropriate actions designed to nurture resources may destroy them (e.g., restructuring to achieve cost savings or impose a more 'rational' organizational framework).

Amit and Schoemaker (1993) adopt a behavioural perspective to demonstrate how resource-based theory could drive the deployment of strategic assets. They use behavioural decision theory (see Zajac and Bazerman, 1991) to explain the existence and persistence of sub-optimal management choices. Amit and Schoemaker observe that firms will differ in their control of resources and capabilities both because of factor market imperfections (following RBV) and managerial discretion in decision-making (following behavioural decision theory). They attribute competitive advantage to what they term 'strategic assets', which include technological capability, brand management, distribution channels, customer relationships and reputation. They identify three issues – uncertainty, complexity and conflict – with significant implications for the management of 'strategic assets'.

- *Uncertainty*. Decision-making under conditions of uncertainty always provides the possibility of sub-optimal choices: psychological evidence (e.g., Kahneman and Tversky, 1979; Einhorn and Hogarth, 1986) suggests that managers may act in a biased and irrational manner with regard to their tolerance of both risk and ambiguity. Overconfidence, managerial arrogance and a blinkered search for 'confirmatory' findings make outcomes difficult to predict. While most individuals exhibit risk aversion, MacCrimmon and Wehrung (1986) identify risk-seeking behaviours in situations where either goals are unrealistic or ambitious targets, behaviours which parallel those in the well-publicized recent derivative trading episodes at Barings and at National Australia Bank. In uncertain conditions managers will tend to repeat past actions and pay too much attention to recent events (see Tversky and Kahneman, 1974). Indeed, past successes may create an illusion of control which biases future decision-making by precluding innovative solutions, challenges which might be overcome by recourse to organizational learning (see Senge, 1990). Both the measurement and management of risk are discussed in more depth in Chapter 9.
- *Complexity*. The simplification of data for decision-making purposes often involves the use of heuristic devices and rule-of-thumb guidelines which may result in the introduction of sub-optimal bias. Tversky and Kahneman (1974) identify hindsight bias and the adoption of unjustified assumptions regarding probability and causality as key drivers of sub-optimal choice. Mintzberg (1978) and Quinn (1980), among others, report on the adoption of arbitrary processes for strategy implementation which impact on the discretionary managerial choices relating to the deployment of strategic assets.
- *Conflict*. Conflicting demands from within the organization for the deployment of scarce resources may produce sub-optimal allocations. Where stakeholder groups have different levels of bargaining power we might anticipate that social and environmental conditions will add to the financial factors that must be considered in the decision-making process.

The RBV approach conflicts with Porter's (1980) framework by suggesting that positioning of itself is not enough, in that competitive advantages associated with cost leadership, niche marketing and branding would not be sustainable in the long term. Although a short-term competitive advantage may occasionally derive from imitable resources, a *sustained* competitive advantage is associated only with intangible resources classified as rare and not capable of purchase or imitation. As a strategic management tool the RBV approach is consistent with the SWOT approach (above) in that it emphasizes the strengths and weaknesses of the resource base; however, there are still relatively few case studies, and little empirical evidence to back up RBV theories. Porter (1996), reflecting on the absence of competitive strategy guidelines in the RBV approach, suggests that companies must identify those products and services which are the most distinctive and profitable and those customer relationships and activities which are the most effective, so that decisions can be made about the appropriateness of continuing past strategies.

PERFORMANCE MEASUREMENT ALTERNATIVES

The original balanced scorecard (Kaplan and Norton, 1992) adopts an unashamedly shareholder focus in establishing a performance framework which addresses other than financial measures (i.e., customer perspectives, business processes and long-term sustainability). The four dimensions have remained essentially the same (financial; customer; internal; and innovation and learning) though their constituents have varied with the changed emphases of subsequent iterations (Kaplan and Norton, 1993, 1996, 2004). The balanced scorecard in this original form has rightfully been criticized for its shareholder-only focus. Atkinson et al. (1997b) are particularly critical of its weakness in the area of employee and supplier contributions. Kaplan and Norton (1992) are also quiet on the selection of specific performance measures and on the role of performance targets.

Not surprisingly, then, the scorecard has frequently been adapted at the implementation stage to embrace other stakeholders, notably customers and suppliers. Thus Ax and Bjornenak (2000) report on the 'Scandinavian' version of the balanced scorecard. However, most of the established frameworks still fail to address the human resource dimension adequately, which as we saw in Chapter 2 has been identified by survey research as one of the biggest gaps between theory and practice in management accounting research. It is instructive to view alternative frameworks, both pre-dating and since the arrival of the balanced scorecard, to see how the embellishments have addressed the observed weaknesses.

The *tableau de bord* (see Epstein and Manzoni, 1997) was developed in the 1900s by French process engineers to establish the cause-and-effect relationships that would permit them to make production improvements. The controls were likened to those we might see on an automobile dashboard (and now in an aeroplane cockpit) to provide a simultaneous display of multiple measures. The tableau was subsequently adapted by managers in order for them to take an overview of a whole business or of a business unit. Within any business a number of tableaux might be developed to suit

the individual requirements of particular units. The focus was mainly on financial measures, but controllable non-financial operational measures were also included. Monthly reporting was intended to induce the alignment of individual business unit objectives and performance with those of the organization as a whole. In practice, this myopic internal focus was dysfunctional, since what was required in the longer term was benchmarking against industry best performance.

The *five dimensions* framework (see Smith and Dikolli, 1991) revolves around five factors: goals, customers, employees, processes and information. Into each of these dimensions are mapped the management accounting tools which would provide the means of addressing issues of concern therein:

- The 'goal' dimension advocates the use SMA and NFIs for planning, the establishment of aims and objectives, and TQM to secure management commitment.
- The 'customers' dimension advocates the use of SWOT methods of industry analysis, SMA for a focus on competition, markets and the environment, and TQM to ensure ultimate customer focus.
- The 'employees' dimension embraces value-added management and total employee involvement to secure participation, team-building and creativity and TQM to change attitudes and behaviour.
- The 'processes' dimension addresses continuous improvement (through TQM), timely delivery (through just-in-time), waste elimination (through value-added management) as well as a number of process improvement facilitators, mainly confined to the manufacturing sector.
- The 'information' dimension focuses on the use of NFIs and feedback loops within an SMA environment aided by appropriate accounting and statistical systems.

Financial performance is the integrating factor for the framework, rather than a separate dimension, since each of the dimensions is seen as impacting on overall performance. The model is short on specific performance measures and has a short-term focus. Thus, while it does address customer, employee and supplier issues, it neglects organizational learning and innovation issues.

Beischel and Smith 1991 identified five *critical success factors*, thought to be universal for all manufacturing companies:

- *Quality* – defined for products (as meeting or exceeding customers' expected levels of satisfaction) and for processes (as reducing operational variances).
- *Customer service* – defined as external (for providing end-product satisfaction) and internal (for satisfying the requirements of other departments and colleagues).
- *Resource management* – concerned with producing optimal outputs from people, inventory and fixed capital.
- *Cost* – concerned with manageable reported levels of cost.
- *Flexibility* – defined in terms of the organization's ability to respond to changes in business circumstances (e.g., the environment, technology, markets, regulation).

The framework (which has clear similarities with the TQM approach for continuous improvement) recognized that a simultaneous approach was necessary if manufacturing performance was to be managed better. Beischel and Smith emphasized the importance of establishing causal relationships so that management's critical success factors could be linked to local performance measures (i.e., the link between 'top floor' and 'shop floor' that they envisaged). If the sets of measures did not align, or produced inconsistent directions, they should be abandoned. Once an appropriate set of manufacturing measures had been established, where demonstrable links to financial performance could be made, then they recommended the design of a number of 'scorecards'. These scorecards would provide a measurement system for each level of management and which reflected both the span of control for decision-making, and the frequency with which measures were reported. Scorecards, and measures, were only relevant if they preserved the link between local performance measures, manufacturing processes and critical success factors. Clearly this 'scorecard' framework has many similarities with its more famous brother, with both critically reliant on the establishment of causal relationships between measures used in different parts of the framework.

The *success dimensions framework* (see Shenhar and Dvir, 1996) suggests that the measurement of performance within only one time dimension might be misleading, and, as an alternative, identifies four time horizons (very short; short; long; very long) across which performance might be measured. This is combined with three organizational levels (project; business unit; company) to provide 12 cells of analysis. Despite the multitude of opportunities to do so, the framework does not suggest specific operational measures for each cell.

The *dynamic multidimensional performance model* (see Maltz et al., 2003) enables organizations to use different measures in each of five dimensions, viewed with varying degrees of importance, depending on industry and competitiveness of the environment. The authors argue that this model improves on existing models in the management literature, both by reflecting organizational performance in multiple time horizons, and through the inclusion of a 'people' dimension which recognizes the critical role of the human resource function in the success of an organization. The model consists of five dimensions in total: *financial*; *market/customer*; *process*; *people development*; and *future*. Within these five dimensions, 12 'baseline' performance measures are identified which might have general applicability to different organizations.

The model is not prescriptive in that it recognizes that one set of measures cannot 'fit' all organizations, but the authors suggest that it will allow an organization to map its performance measures into the five dimensions. However, the 'people' and 'future' measures in the model may, in practice, be too subjective for them to be operationalized consistently, posing potential problems of both generalizability and comparability.

The *performance prism* (see Neely, 2003) seeks to address the key flaw of the balanced scorecard by addressing stakeholder value, rather than purely shareholder value. The prism is a three-dimensional model based around strategies, processes and capabilities (being that combination of people, practices, technology and infrastructure necessary to sustain and improve on existing processes). Importantly, it addresses both 'stakeholder satisfaction' and 'stakeholder contribution', where 'stakeholders' would include not only investors but also customers, employees, suppliers and regulators.

Thus 'stakeholder satisfaction' identifies the important internal and external stakeholders in the organization, together with their requirements, while 'stakeholder contribution' identifies what is required from stakeholders if they are to maintain and develop the set of capabilities. A potential limitation of the performance prism is, however, that some the measures of 'stakeholder satisfaction' and 'stakeholder contribution' may be subjective in nature, and interestingly none of these developments have so far adequately addressed the human resources issue, so that further developments might be anticipated in this respect. Malina and Selto (2001) identify a potential barrier in that the implementation of knowledge-based strategies, necessarily with significant human resource implications, would not be encouraged by traditional financial performance measures should the associated resources continue to be treated as a current expense.

The balanced scorecard remains the most important of the performance measurement frameworks, and is discussed in greater depth in Chapter 8. Interestingly, Kaplan and Norton (2004) further blur the distinction between the four dimensions of performance. With their introduction of 'strategy maps', the 'internal processes' domain now embraces both customer management processes and innovation processes, while the 'learning and organization' quadrant provides the opportunity for the development of capabilities associated with intangible assets.

SUMMARY

The chapter provides an indication of the dynamic nature of performance measurement. Numerous alternative frameworks are examined, all with the potential to facilitate organizational improvement. In essence they provide guidelines, and must not be regarded as prescriptive: the one message that comes through loud and clear, and will be reiterated in Chapter 8, is that 'one size does not fit all' – the performance measurement framework must be modelled to fit the organization it is meant for or it will not produce the outcomes which are desired or expected. Alignment of corporate goals with performance measurement framework is essential. The frameworks in this chapter facilitate the conduct of comparative analysis and performance benchmarking, and establish the base for the analysis of implementation issues and alternative strategy approaches.