6
Determining the Business Information Systems Strategy

Through in-depth analyses of the business environment and the strategy of the business as well as an examination of the role that information and systems can and could fulfil in the business, a set of known requirements and potential opportunities can be identified. These needs and options will result from business pressures, the strategy of the business and the organization of the various activities, resources and people in the organization. Information needs and relationships can then be converted into systems requirements and an appropriate organization of data and information resources.

To enable these 'ideal' applications to be developed and managed successfully, resources and technologies will have to be acquired and deployed effectively. In all cases, systems and information will already exist, and, normally, IS resources and technology will already be deployed. Any strategy, therefore, must not only identify what is eventually required and must also understand accurately how much has already been achieved. The IS/IT strategic plan must therefore define a migration path that overcomes existing weaknesses, exploits strengths and enables the new requirements to be achieved in such a way that it can be resourced and managed appropriately.

A strategy has been defined (on page 69) as 'an integrated set of actions aimed at increasing the long-term well-being and strength of the enterprise.' The IS/IT strategy must be integrated not only in terms of information, systems and technology via a coherent set of actions but also in terms of a process of adaptation to meet the changing needs of the business as they evolve. 'Long term' suggests uncertainty, both in terms of the business requirements and the potential benefits that the various applications and technologies will offer. Change is the only thing that is certain! These changing circumstances will mean that the

organization will have to be capable of effective responses to unexpected opportunities and problems.

This chapter considers how the models and processes of IS/IT strategic planning from Chapter 3 and the tools and techniques of analysis from Chapters 2, 4 and 5 can be consolidated into an IS/IT strategic management approach for the organization: an approach that enables it continuously to identify the appropriate application systems and information resources it requires and, at the same time, to take advantage of new opportunities as they arise.

As discussed in Chapter 3, an organization's IS strategy is a result of its own decisions—the choices it makes in the context of evolving business and information technology environments (see Figure 3.8). However, it must adapt to events, changing priorities and emerging options as well as adjust its plans according to how well and how quickly the intended IS strategy is actually realized. Business objectives are now often updated and even radically revised within months of their establishment, and this can cause frequent reassessment of investment opportunities and priorities. To avoid wasted IS/IT investments and misuse of resources, some aspects of the IS strategy will have to be adjusted quickly and decisively, but, equally important, much of the strategy will not need to change. Frequent, unnecessary reassessment can waste resources and often causes implementation failures. The approach described in this chapter describes how this can be allowed for, as well as illustrating how the various tools and techniques can be successfully blended together into a practical and adaptable process.

STRATEGIC PLANNING TECHNIQUES AND THEIR RELATIONSHIPS

In Chapter 1, a simple model for describing the IS application portfolio of a business was developed. This model suggested that IS/IT applications could be described in terms of 'strategic', 'high potential', 'key operational' or 'support' (see Figure 1.7). The main factors that influence the balance of that portfolio for any business (i.e. which applications reside in which sectors and the relative strategic importance and criticality of each) can be classified as (see Chapter 3 for more detail):

(1) *External long term*—external business environment

- the state of the industry in terms of profitability, growth and structure;

- the degree to which IS/IT is, or is capable of, changing the products, markets and interrelationships of the industry.

(2) *External short term*—external IS/IT environment

- the actual use of IS/IT by competitors and others in the industry to gain a relative advantage;
- the opportunities created by IS/IT to change the balance of competitive forces and influences on the industry, both in the existing value chain and by new entrants or product/service substitution.

(3) *Internal long term*—internal business environment

- how new IS/IT applications could more effectively support or enhance the business strategy of the enterprise;
- how new IS/IT applications could enable the business to adopt a more appropriate strategy to suit the future business environment.

(4) *Internal short term*—internal IS/IT environment and current application portfolio

- the degree to which existing systems support the chosen strategy and the criticality of those systems to avoiding business disadvantages and/or sustaining existing advantages;
- the existing approach to IS/IT management and its appropriateness to the business strategy;
- the IS/IT resources and competencies the organization has or can easily acquire.

Chapter 4 primarily dealt with the internal factors, both short and long term, that determine the overall structure of the portfolio, and Chapters 2 and 5 focused mainly on external factors. At this stage, these factors are considered in terms of their influence in determining *what* could and should be done rather than *how* to do it—the demand-management part of the basic demand/supply rationale of IS/IT strategic management depicted in Figure 1.6. The models in Chapter 3 considered in greater depth the issues of both demand and supply management. There is obviously an iterative relationship; supply can constrain the demand, and any modification of demand will require different strategies for supply. How to achieve the appropriate supply will be considered in depth in Chapters 8–11, as will the detailed issues of the management of the portfolio (in Chapter 7).

The processes for formulating the IS/IT strategy described in Chapter 3 emphasize the need to determine requirements before deciding how to satisfy them, but the ability to conceive the requirements will be coloured

by a historical predisposition based on a knowledge of the organization's ability to deliver. Despite these convolutions, which can potentially result in an inability to do anything, the determination of future demand is the most critical, and often most difficult, aspect of strategy formulation. Consequently, approaches and methods used need to be brought together to ensure that a comprehensive and coherent set of demands is identified and agreed.

Demand for IS/IT in a particular business unit can be most easily described as a 'business information systems strategy' using the portfolio concept above. The previous two chapters have described techniques for trying to 'fill' the portfolio with applications. Figure 6.1 summarizes the inputs to the approach to IS/IT strategy formulation and the techniques used to populate the portfolio. (The numbers on the diagram refer to the chapters in which the tools are described.) Although it might appear from previous discussion that the strategic quadrant is all-important, appropriate investments in applications in the others will produce significant contributions to improved performance. An inability to manage support or key operational systems successfully will both reduce the ability to realize available benefits and absorb resources on applications of lesser importance. The objective at this stage of strategy formulation is to determine what future applications would be appropriate for the business. So far, a model has been developed that has inputs, tools and techniques and a conceptual product! The next stage is to consider how the various techniques and approaches can be brought together to ensure that the products of analysis are consistent and can be reconciled during more detailed planning.

FRAMEWORK IN WHICH THE TOOLS AND TECHNIQUES CAN BE USED EFFECTIVELY

It would be convenient if a 'methodology' or structured, repeatable process could be proposed, but this is not realistic given the need simultaneously to relate existing situations to requirements to ideas. However, a framework within which the various concepts can be used more effectively, rather than as isolated techniques, is essential if the determination of the business systems strategy is to be a manageable task. Also, as circumstances alter and progress is made, the strategy will require updating, without the necessity to reappraise all the analysis and resulting conclusions.

The main objective of determining the IS strategy is to identify the required applications and their priorities, and be able to deploy resources to achieve them successfully. The outline framework depicted in

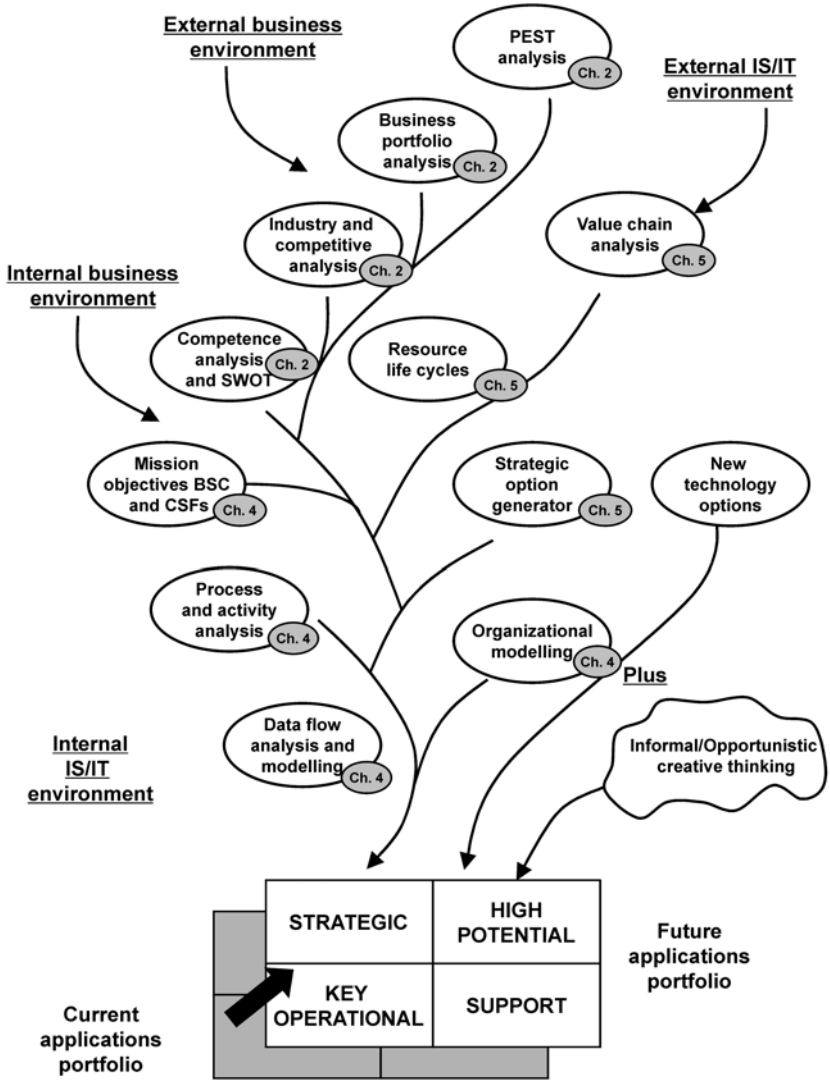

Figure 6.1 *The inputs and tool kit*

Figure 6.2 illustrates, as the end product, the portfolio divided into three components:

(1) *The existing applications*—those currently in place and being developed to be installed in the near future, usually 6–12 months. They

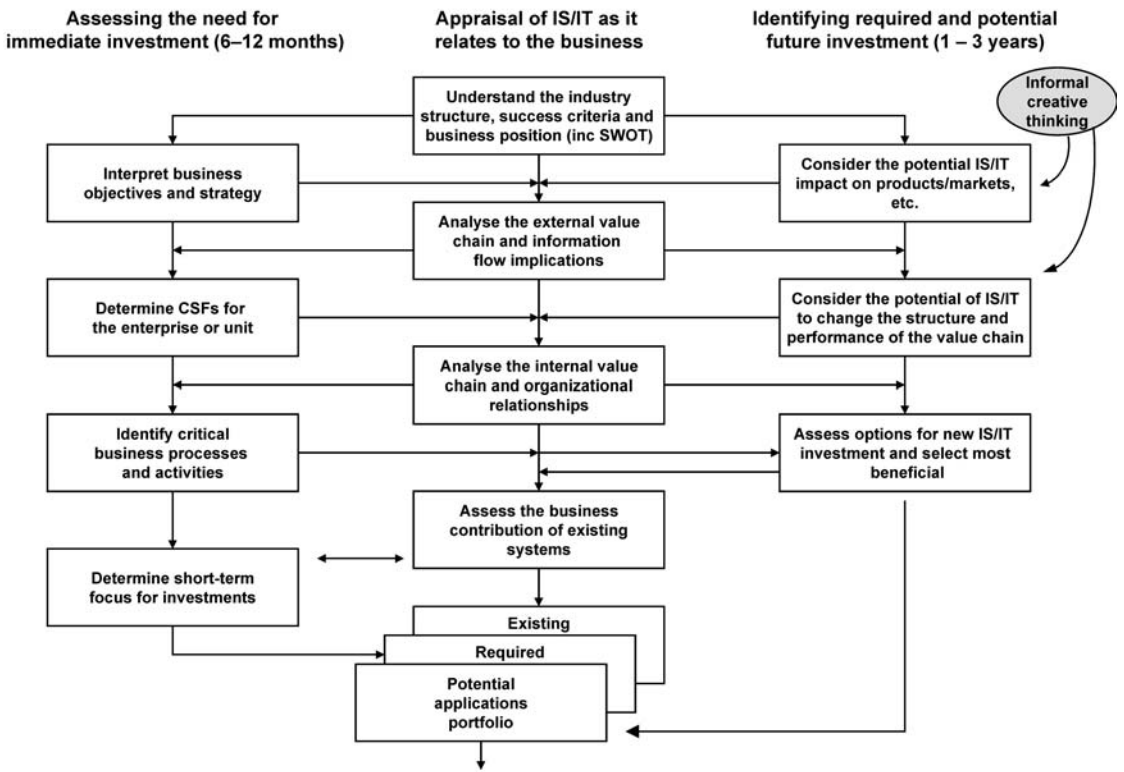

Figure 6.2 *Overall framework for determination of the business IS strategy*

should be assessed in terms of their contribution to existing business processes and performance and how well they support the achievement of known future requirements. The strengths and weaknesses of each need to be understood, but in a future as well as a current context.

(2) *The required applications*—those that will be necessary to achieve the business objectives and strategy within the business planning horizon and can be shown to have specific contributions to make.

(3) *The potential applications*—those that might prove valuable in the future, provided they prove feasible to deliver and can be shown to produce relevant benefits, either to the strategy directly or by significant indirect effects through improved business performance.

The different types of application and their implications are likely to result from (respectively) a thorough situation appraisal of the business and its information requirements, an analysis of the business strategy and objectives, and a creative assessment of possibilities for IS/IT in the business environment. The products of each of these processes needs to be interrelated and consolidated, which implies that the process will be somewhat iterative. Ideas, as they crystallize, will have to be reconsidered in relation to each other and the overall business options. The three columns of Figure 6.2 refer to:

(a) the need continually to reappraise how both the external and internal environments are changing and the role that IS/IT is or should be fulfilling in the business and its relationships—*central column*;

(b) the need to identify and monitor new or emerging IS/IT-based opportunities to create potential advantages for the organization (or that might result in disadvantages if ignored)—*right-hand column*;

(c) the need to make decisions on how best to deploy available business and IS/IT resources in the immediate future—*left-hand column*.

The horizontal arrows on Figure 6.2 suggest the most effective route through the 'map' when the strategy is first formulated, but also indicate what also needs to be considered if any changing variable causes the strategy to be reappraised.

In the following sections, the overall framework described in Figure 6.2 will be considered in more detail, in terms of the processes, the products of each process and their interrelationships. All the various tools and techniques have been described in previous chapters, and this framework is a more detailed description of the overall processes and deliverables described in Chapter 3.

IDENTIFYING HOW IS/IT COULD IMPACT THE STRATEGY

The first part of the discussion considers the steps that address the range of opportunities and threats that IS/IT offers and poses for the business. This primarily involves addressing the top six boxes of the framework, as shown in Figure 6.3: assessing the IS strategy implications of the industry environment, exploring competitive forces, assessing external value chain relationships and the analysis of the current business strategy. Any innovative ideas for exploiting IS/IT, identified separately from the main strategy development process by informal, creative thinking, should be incorporated and assessed during this part of the framework.

Understanding the Industry and the Potential Impact of IS/IT on Products and Markets

Understanding the industry and the potential impact of IS/IT on products and markets is a prerequisite to any development of an IS/IT strategy. The first step is the assessment of the overall business situation in relation to the external environment, and this should be done by the business management as an integral part of the business strategy. The key issues to be considered are:

- the business units and their relationships to each other and to the corporate body;
- the stage of maturity of the industry or industries within which the businesses compete;
- the product and customer portfolios of the business units and the contributions to revenues and profits, and demands on resources that each group of products/markets makes;
- the competitive forces affecting the business units and the corporation, and their impact on the business—this in turn leads to a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis of the companies' positions regarding each of the forces to identify areas of greatest concern and need for action;
- the key competencies required to succeed in the industry and the relative status of the organization's competencies in each dimension—customer, product and operations.

This stage is essentially the business strategic analysis process described in Chapter 2, and it leads immediately in two directions:

(1) to consideration of the business strategy and objectives in the established business environment (see Chapter 4); and

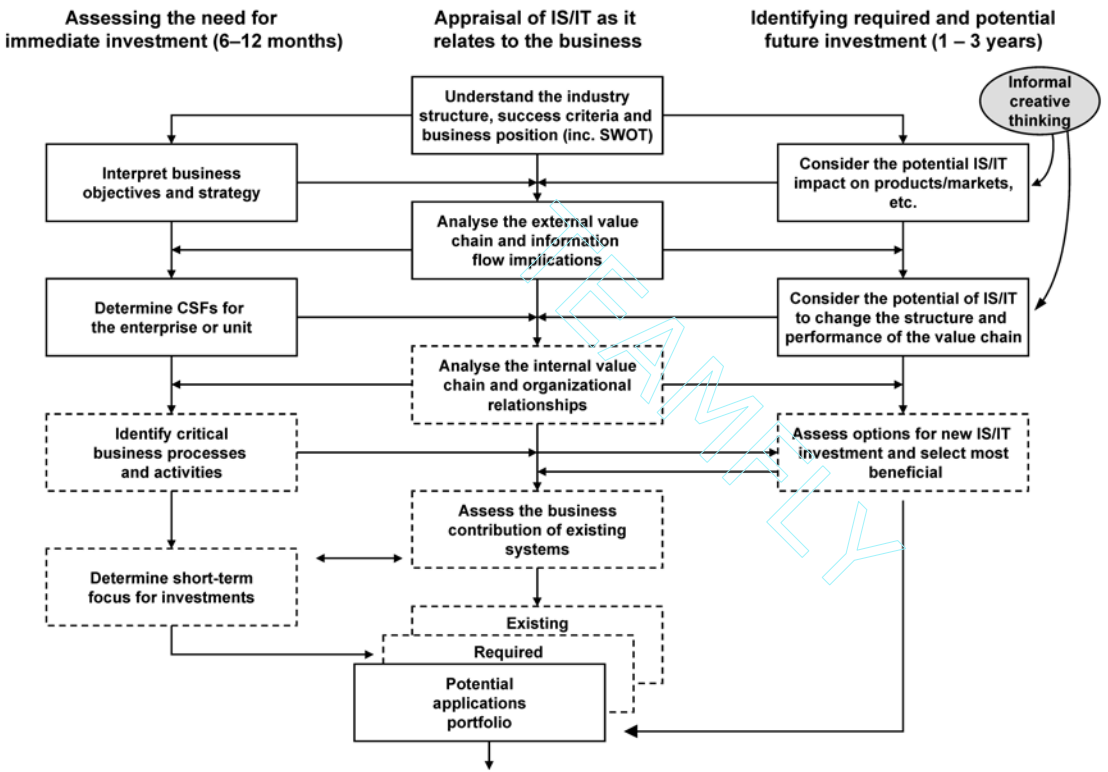

Figure 6.3 *The steps which define the strategic IS potential and options*

(2) to identification of ways in which IS/IT could impact the industry in terms of products/services/economics and be used to affect the relative strengths of the competitive forces (see Chapter 2).

Perhaps the main product of this stage of analysis is the understanding of the organization in terms of business units, their relationships and the similarities and differences among them and the environments in which they operate. For each unit, the strategic competency assessment can identify in which dimensions (product, customer or operations) the organization could expect IS/IT to sustain its advantages or create new ones, and in which the immediate IS/IT investment focus should be to redress existing or emerging disadvantages. This enables a basic investment stance on IS/IT to be adopted—innovative, aggressive, defensive or survival—and this will act as guidance to the types of opportunity to be sought.

In the discussion below, it is assumed that a business unit is being considered; the additional implications across business units and for corporate information will be considered at the end of the chapter.

Interpreting Business Objectives and Strategy

Business objectives and strategies are the products of a number of considerations:

- what the organization *might do*, based on the environment within which it operates or by moving into new environments;
- what the organization *wants to do*, based on the values and views of, chiefly, the senior executives and stakeholders;
- what the organization *must do* if it is to survive in its environment, depending on the pressure groups and their influence;
- what the organization *can do*, based on its resources and capabilities.

Overall business objectives can be classified in a number of ways for further analysis and formulation of strategies—the Balanced Scorecard being one of the best known and most frequently used. The overall strategy will define specific objectives for the whole organization, which will then need to be analysed and interpreted to develop functional and/or initiative-based strategies to achieve them, to reflect how each part of the organization will contribute to meeting the overall objectives. The scorecard process can be extended and formalized into a strict 'management by objectives' (MBO) scheme, which allocates responsibility to individuals for achieving their contribution to the objectives. The objectives

need to be prioritized—if only into high, medium and low—and measurement criteria established to complete the scorecard.

Another way of structuring objectives, adopted by a major retailer, for use in determining IS/IT requirements considers objectives at three levels:

- *permanent objectives*, which reflect the mission and overall goals of the company and its long-term intentions;
- *strategic objectives*, which the company wants to achieve in the medium term;
- *tactical objectives*, which the company and its divisions can and must achieve in the short term to make strategic and permanent objectives attainable.

In terms of 'usable objectives' in IS/IT strategy formulation, the last two are the most relevant and can be assessed in terms of critical success factors (CSFs). The permanent objectives essentially provide the background to 'why' the company needs or intends to do things.

Although objectives should be driven by business requirements and be set primarily in relation to external demands, often they reflect the way in which the current organization and its managers interpret that external world in terms of what they see as necessary to do. They may not, therefore, consider enough options or may address only some of the issues. IS/IT may change objectives due to its potential impact on the business environment. Therefore, at this point, we need to bring together the potential impact of IS/IT on the industry and the objectives of the organization either to develop new objectives or qualify the priority given to existing objectives based on IS/IT threats and opportunities.

Before looking at CSFs, it is worth considering both the objectives and potential impact of IS/IT on the business in more detail in terms of industry relationships.

Analysing the Industry (External) Value Chain and the Information Flows

The industry value chain is effectively a high-level information flow model, which can demonstrate the role that information plays in determining the overall performance of the industry and how it can be used by suppliers, customers and competitors to effect the potential achievement of the enterprise's strategy. The product of such analysis is an understanding of the information relationships and 'entities' that all players in the industry need to manage well to achieve success. This, in turn, can lead to an extension of the IS requirements and potentially new or modified objectives.

Appraising these possibilities in the light of business objectives and strategies, and overlaying them on the overall industry value chain, enables consideration of what the organization wishes to do to take advantage or otherwise of the options. The result will possibly lead to refinement of objectives and should produce a more focused consideration of the potential opportunities or threats. It will also identify the external organizations required to become involved in any changes in relationships and processes required or resulting from IS/IT options.

The external value chain and high-level information models then form a framework for more detailed considerations of the internal implications (see page 289). More specific analysis techniques such as data flow analysis and entity modelling can then be used to define the detailed information involved, its potential sources and uses. Process analysis and modelling techniques can produce a first view of how the options might be developed and implemented.

Determining Critical Success Factors

As discussed in Chapter 4, Critical Success Factor (CSF) analysis has been the most commonly-used tool in the IS strategies toolkit and its value is increased if used in conjunction with the Balanced Scorecard.

The establishment of a set of CSFs against a set of business objectives and measures, within a Balanced Scorecard framework, requires consolidation into a matrix of objectives and relevant CSFs, as described in Chapter 4. This is reasonably straightforward, provided there are not too many of either! The priority for dealing with the CSFs is not determined by the CSF ('critical' implies that no priority can be set), but by the priority of the objective that caused the success factor to be identified and by the number of objectives that will be affected by its satisfactory achievement. The next stage in the process is not, however, as straightforward. Interpreting CSFs in terms of information and information systems cannot easily be done without reference to the activities of the business and its organizational structure, which is considered below.

Determining the Strategic Potential

The next stage is to consider in more detail how the key business processes (in information and systems terms) relate to and are affected by other organizations' 'systems' in the industry value chain. The strategic potential of IS/IT and its effects on the overall value chain can then be identified.

The refinements of the value chain analysis described in Chapter 5—resource life-cycle analysis and strategic option generators—enable

consideration of which other parties in the industry, to what extent and for what purposes, the organization can and should extend information systems through the external value chain, and to exert appropriate influence and accommodate external changes in industry structures and processes. The CSFs define how important it is for the organization to do so (if at all) in order to meet its objectives. This analysis should lead to the definition of new information needs and potential systems options. How feasible it is actually to develop or change processes and systems to take advantage of such opportunities will depend on:

(a) the effectiveness of existing internal systems in linking the chain together;
(b) the possibility and economics of obtaining additional information; and
(c) the willingness of suppliers and customers to cooperate, based on the benefits they perceive.

To summarize the process so far, Figure 6.3 shows how far the analysis has progressed through the framework of tools and techniques. The overall products are effectively a view of the opportunities and threats of IS/IT for the business, based on its relationship to the business environment and its overall strategy. No consideration has been made of its ability to deal with them, to take advantage or avoid being disadvantaged. The remaining steps in the process are essentially to assess the strengths and weaknesses of the existing IS/IT applications and information within the context of the broader business issues and to identify priorities for action and needs for enhancing the capability. So far, the analysis and thinking has taken an external ('outside-in') and top-down view of the business. This needs to be counterbalanced by an internal, bottom-up analysis, before selecting which application areas are to be addressed and over what timescale.

Before proceeding, however, it is worth considering how long this first 'half' of the analysis should or can take and the resulting implications for the rest of the strategy formulation process. It must not take too long, because it is important to obtain a senior management buy-in to the potential of IS/IT in terms of business opportunities and threats. If management interest and involvement cannot be obtained at this stage, sufficient to commit the organization to the second, more internally-focused stage of the process, then there is little chance of later success. Given the knowledge and types of analysis involved, a group of senior managers need to come together for a number of sessions to enable their knowledge and views to be shared effectively. Their available time will be limited and the work must be done over a short period, since continuity

needs to be maintained and to avoid repeated reworking of the analyses and ideas. It is realistic, from experience of companies that have undertaken this, to expect one to two months to elapse at the most, with the main working done in a series of workshops, led by a business manager. The role of IS/IT staff is to facilitate the process and perhaps document and consolidate the rationale and conclusions, without attempting to initiate action unilaterally on ideas arising, unless it is apparent that resources are currently being seriously misused or that decisions currently being taken are obviously inappropriate.

During the next stage of the process, the IS role is significantly increased, in providing management with input to help strategic decision making and identify the specific implications of available options. That does not mean, however, that this second stage should take too long. From identifying the opportunities and threats to eventually describing an outline business systems strategy for the unit should again take no more than one to two months. If it takes much longer, earlier work may have to be repeated or management will have lost interest, since nothing appeared to result from the time they spent. The second half of the process will now be considered in more detail (see Figure 6.4).

ESTABLISHING THE RELATIVE PRIORITIES FOR IS/IT INVESTMENTS

Analysing the Internal Value Chain and Organizational Relationships

One thing is almost certain at this stage: the analysis of the internal value chain to identify what the business does and how it could be better carried out, and the analysis of the organization to show how it is structured to do it, will produce a degree of mismatch. When the dynamics of how the organization actually works are considered, this will probably confuse the picture even more! Equally inevitably, existing systems and information resources will have been established more from an organizational than a value chain perspective. In addition, the situation is not static. The business will be changing, developing or retrenching, and reorganization of functions, people and structure will be a continuing process.

The value chain offers a firmer foundation than the current organizational structure or relationships, in terms of understanding and analysing the key business processes and activities and identifying appropriate information and systems requirements. It is, therefore, important to identify the primary activities of the business—those essential to the value-adding processes and to describe the key information requirements of each and the links among them. These can then be considered as part

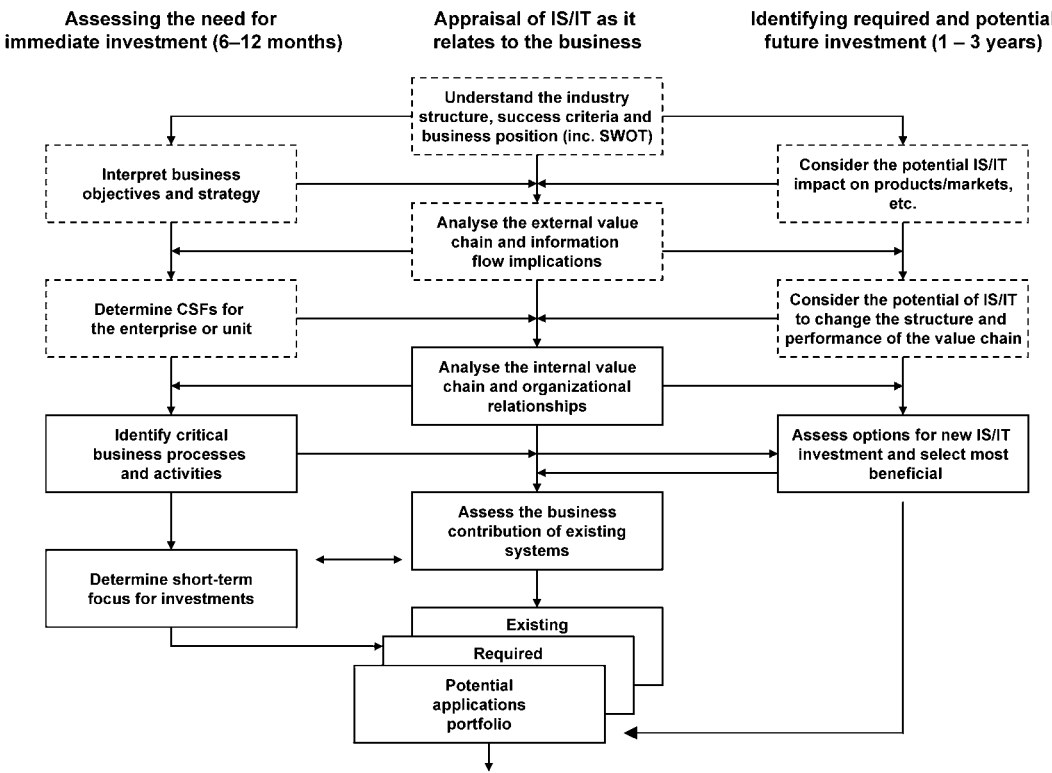

Figure 6.4 *The steps which establish the relative priorities within the overall demand*

of the information flow through the industry in relation to suppliers and customers, and, if necessary, the existing value chain can be 'extended' or redefined in terms of those external relationships. Which processes need most improvement through IS/IT should be identified from an analysis of competency. For example, if customer intimacy is a potential source of advantage, IS/IT should be targeted on innovation or extension of customer-facing activities. If operational performance is far from excellent and is in fact a cause of disadvantages, the particular processes that are problematic need to be targeted with IS/IT investments to bring performance back to the required levels. Each of the dimensions should be considered in terms of the value chain activities and processes that have the greatest impact on overall performance in that dimension.

The internal primary chain essentially describes how the business operates, not how it is controlled or developed. Control and development involve both primary and support activities, and information to enhance these processes will be derived from and be overlaid onto the information and systems in the primary activities. Control and development activities are more dependent on the organization structure and functional responsibilities than the core business value-adding processes. The value chain model is less useful in analysing the support activities and defining the consequent information and systems needs.

Opportunities for gaining advantage from IS/IT exist in both primary and support activities, as do 'opportunities' to incur a disadvantage, although the disadvantage incurred will be more immediately obvious due to failure in the primary activities. This reinforces the need to establish a clearly understood internal primary value chain within which to evaluate the strengths and weaknesses of existing applications—a high-level information flow model that accurately reflects how and how effectively the business operates and relates to its trading partners. Different types of internal value chain model were described in Chapter 5. It is important to understand which type of model reflects the nature of the business most accurately.

Having established the model, the organization structure can be examined to identify how the activities of each function contribute to or fulfil a primary role in the model. Many organizational units will contain primary and support functions, and they need to be separated. Some support activities will exist merely because of poor linkages with other functions, their existence being the result of 'failure' in another part of the organization. Many will have evolved due to systems or information management weaknesses elsewhere, and the problems that resulted in 'unnecessary' reconciliation or recovery activities need to be cured at source. The value chain is likely to expose such problems—organizational analysis may obscure them.

As has been noted, support activities are more organizationally dependent: they either assist in planning or controlling the primary activities, where integrated and/or consistent planning processes or controls are needed, or are instrumental in the development of the business by co-ordination of the acquisition and deployment of resources and organizational knowledge across primary and secondary functions. They require analysis in terms of the information they need from primary functions, plus any additional information, and in terms of how primary functions can obtain information from them in order to manage their activities successfully.

Information and systems can be used to improve efficiency, enhance management's effectiveness or add value to the business in terms of external relationships and perceptions. To focus attention appropriately, therefore, it is important to identify why and where costs are incurred, where success depends specifically on management effectiveness and how and where value is actually added.

Accounting systems offer a basis for cost allocation, although they will inevitably reflect organizational rather than value chain groupings of cost. It should be possible, via even a rudimentary activity-based costing process, to reallocate the costs of the business to the value chain processes to identify areas of most potential benefit. This, again, will separate 'primary' and 'secondary' costs. Business objectives, Balanced Scorecards and CSFs offer a basis for assessing management effectiveness, through measured achievement or otherwise. A very useful step in the analysis is to position each of the CSFs in the value chain to identify which activities, or sets of related activities, need most attention to sustain or improve overall business success. CSFs that cannot be allocated need to be questioned, since organizational ownership of a CSF is important if it is to be dealt with effectively. The external view of the business, developed earlier in the process, offers guidance as to how and where the company adds value in relation to suppliers/customers and in comparison with competitors. This can be transposed into the value chain to highlight areas for enhancing the value-adding aspects of the business.

Identify Critical Business Processes and Activities

From this stage, it is now possible to identify the critical business processes and activities, based on CSFs and the way in which the company adds value/incurs cost and is managed. The overlay of CSFs will also show up the interdependence of activities. The nature of the potential for business improvement will vary depending on the relationship between

the value adding, cost and the CSFs associated with activities and processes:

- a high-cost, low-value-adding activity with few CSFs clearly only offers cost-reduction possibilities from IS/IT investment;
- a high-value-adding activity could be made more effective through IS/IT investment, but this will only be worthwhile if its improvement relates directly to agreed business CSFs. If, however, it is a high-cost as well as a high-value-adding activity, then IS/IT may still help to reduce the cost;
- where a number of activities are associated with a CSF, then they need to be assessed collectively in terms of options for enhancing the value or reducing the cost of each, via IS/IT developments;
- however, if an activity adds little value and is not associated with any of the CSFs, it is more important to question whether it is needed at all than to consider how to improve it through IS/IT! Every organization carries out some activities that actually add no value, and some organizations have even computerized them!

The information and systems implications can now be categorized into those that are critical to current business success, those that are likely to affect future success and those that merely support the business processes (i.e. strategic, key operational or support). Again, the data flow and data entity models (as described in Chapter 4) will show the dependence of processes on sources of data across the organization, and the need for integration or otherwise of systems and information resources.

Assessment of New Options for Investment

Having understood the relationship between the value chain, the organization structure and the criticality of processes and activities, it is now possible to assess the value of the various IS/IT opportunities developed earlier through the 'creative' thinking route, in terms of whether they could have an immediate impact or are of longer-term potential. The ideas and options need to be reassessed in terms of *whether* and *how* they could provide the organization with specific advantages or reduce foreseeable threats, and whether and how, in the shorter term, they can contribute to the existing business strategy by improving the current operational and developmental processes. This will depend on how closely they align with the objectives/CSFs and, hence, address known critical business activities. Because of the rationale of the overall process, the options and their current relevance should not be at odds with the prevailing business issues or strategies. Some, however, may be beyond

the current objective horizon, but should be kept within the portfolio as high-potential ideas, which may become more valuable as the business moves forward and the environment changes. It may well be worth some investment to test the ideas, determine the possible benefits and examine the feasibility of achieving them. That is especially true of ideas that would apply equally well to competitors. The selection process is essentially a decision on each idea in terms of why it should be pursued or not, in the next few months or year (i.e. is it currently strategic to the business?).

The overall route through the 'creative' chain can be summarized as:

- What could IS/IT do for all the firms in the industry, in terms of changing business parameters and relationships?
- What could IS/IT do for the organization, based on its particular position within the industry?
- Which options offer most immediate benefit in terms of the business objectives/strategy and the way the company operates and is managed?

Determining the Future Applications Portfolio

Each of these last steps in the process is focused on defining the future portfolio of applications. The creative route will produce ideas that will be generally categorized as:

- high potential: worth evaluating further; and
- strategic: the idea relates directly to the business strategy.

The current situation analysis will probably highlight the need for new applications in each quadrant, although they are more likely to be key operational and support rather than the other two. From this will come a need to consolidate strategic and high-potential applications derived from various routes, plus a need to address the weaknesses of existing key operational and support systems. Determining which weakness to address first will depend not only on current impact but on whether it will be increasingly or decreasingly important in the future. That, in turn, depends on how critical the activity it supports will be or whether it can affect any of the CSFs. Will, for instance, not integrating a system make a further strategic application impossible? CSFs determine what is of strategic importance, what offers the highest potential and which key operational weaknesses must be overcome. They have little, if anything, to do with support applications, where decisions are based on the net economic benefits of investment. An approach to assessing the contribution (and

strengths and weaknesses) of the existing applications is described in detail in Chapter 7. At this stage, it is worth emphasizing that it is perhaps more important to deal with serious weaknesses first, especially if they could soon result in a real threat to the business or are precluding opportunities being taken. In addition, some opportunities that are not dependent on anything else should be pursued, in particular where they build on existing strengths, giving more chance of success.

It must be stressed again that this approach to using the models and techniques is not a methodology, but a way of bringing them together to ensure that the overall results are more complete and of greatest overall value to the organization. No one technique provides a comprehensive view of the business options for IS/IT investment and no one technique can produce certainty of conclusions. Figure 6.2 has one additional arrow showing the need for the next stage—managing the resulting portfolio. Before considering that in detail, one further aspect needs to be discussed: How can this process be used in a multi-SBU company and what are the implications?

LARGE ORGANIZATIONS, MULTIPLE SBUs AND THEIR CONSOLIDATION

Most multi-business-unit organizations will have some scope to benefit from examining not just one business unit but also looking across business units, before deciding on how best to meet information and system requirements. Figure 3.7 demonstrates the basic relationships.

Both synergistic and economic opportunities will be affected by a number of factors, not least of which is corporate management's desire to gain such benefits across business units. It is possible that each business unit is seen merely as part of a 'portfolio' that is continually being changed by buying and selling businesses for primarily financial reasons. In such a case, synergistic and economic benefits will at best be short-lived, if achievable at all. In most other circumstances, however, the overall corporate benefits from IS/IT opportunities will often exceed the sum of the parts.

The factors that can affect the corporate as opposed to purely business unit 'value added' of IS/IT can be outlined as follows:

- whether the units compete in the same or different industries and the similarity or otherwise of their products and services;
- whether the units are in similar competitive positions in their industries, whether the industries have similar rates of growth (or decline) and whether the types and mix of competitors are different;

- whether they have similar levels of strategic competency in each of the three key dimensions—customer, operations and product;
- whether they have the same (or similar) customers, distribution channels, and/or suppliers, with whom information can be shared and value chain links can be mutually developed;
- whether they trade with one another (i.e. are related in a value chain, where IS/IT links could give the company an overall advantage);
- whether they carry out similar processes (i.e. are the internal value chains of the same type and/or are some or all of the primary value chain components similar?);
- whether they are of similar sizes and scale of operation (e.g. numbers of customers or suppliers);
- whether they have similar objectives and are adopting similar strategies, and, as a consequence, have similar CSFs (units with different CSFs will have significantly different IS/IT priorities);
- whether the parent company requires a consistent, even standard, structure of information from all the units;
- whether support activities are broadly similar and (can be) organized in the same basic structure.

These imply that opportunities for further benefits exist in each of the inputs to the IS/IT strategy process (i.e. external and internal, business and IS/IT environments) for the corporation overall to gain from synergy and economies. A threat or weakness for one business unit may be able to be overcome by transferring knowledge or even applications from another business unit. It is, therefore, important to compare the results of the analyses and to share ideas. Any of the techniques, at any stage of the process outlined above, could reveal such cross-unit opportunities, so all results should be 'pooled' and made available for others to adapt, adopt or join in the development, if appropriate. An idea from one part of the business, adapted by another, may even offer more benefits.

SUMMARY

Chapters 2 to 5 described approaches to IS strategy formulation, providing an overall organizational process with associated tools and techniques of analysis. This chapter has attempted to bring these key components together in summary form, in order to describe a framework within which the business information systems strategy can be developed and then represented in terms of what information and systems the business *must*, *should* and *might* have to achieve maximum benefit in its business environment.

The IS/IT strategy consists of much more than this, but, without business needs and opportunities so identified and defined, the rest of the strategy is worth very little. Although not every threat can be anticipated, every opportunity spotted, each strength exploited or every weakness overcome, the framework for using the tools and techniques should enable fewer threats and opportunities to be missed, and IS/IT strengths and weaknesses to be understood better in terms of their business implications.

The framework may seem rather conceptual, even theoretical, and it may be that various steps can be short-circuited and appropriate conclusions drawn much earlier in the process. There is no point in exhaustive examination when ideas obviously make sense, but many ideas cannot be properly evaluated without consideration and testing from a number of viewpoints.

The framework attempts to bring together analytical processes and focused, creative thinking approaches to enable the products of both to be considered as they arise. This is more realistic than waiting for all the analysis and all the ideas to be generated, and then examining them all together, to distil all the resulting conclusions. That is not how the best ideas and strategies evolve and develop. Good ideas and insights will occur throughout the process, and they need to be capitalized on there and then, as far as possible, not put on the shelf for later consideration when their rationale and 'value' may have been forgotten.

Although the framework is therefore somewhat 'ideal', it does include most of the tools and techniques that are generally found to be useful, in a logically linked process. It also ensures that all types of strategic input, both external and internal, are assessed in relation to one another. It does enable an outline business IS strategy to be identified and a consensus of agreement and management endorsement to be achieved in a matter of a few weeks or, at worst, a very few months.

It must also be remembered that planning is a continuous and continuing process, and the formulative framework described above will have to be repeatedly revisited to ensure that the portfolio as foreseen is still relevant. As factors inside or outside the business change, in the business or IS/IT environment, the conclusions to be drawn from each step in the framework may change, therefore some paths through the process will have to be revisited to identify the implications of changes and reflect these quickly in the form of a revised portfolio. However, it is equally important not to need to repeat the whole process if any particular factor changes.

The management of such application portfolios is considered in depth in Chapter 7, in terms of ensuring that demand for applications based on needs and ideas generated, as above, can be successfully supplied. Later

chapters then consider in more detail the strategies for managing key aspects of the delivery of that supply to satisfy the variety of requirements inherent in the applications.

ENDNOTES

There are no endnotes for this chapter—all the relevant references, etc. are covered in preceding chapters.