Module 5

Evaluating Strategies for Information System and E-Commerce Applications

Overview

This module is designed to give you the background theory on how to conduct an inventory of your company's readiness to take advantage of e-business, and to introduce you to some approaches to perform effective evaluations of your e-business and IS strategies. In particular, you will be examining the approach known as the Balanced Scorecard (BSC). As you will recall from your earlier work, inter-organisational systems are today dominated by ICT and result in an electronic business environment. E-business is the sharing of business information, maintaining relationships and conducting transactions by means of telecommunications networks. While the technology of implementing these business objectives is the subject of relatively well understood progress and initiatives, you have seen that integrating business strategy to make effective use of the technologies is not straightforward.

Previous modules have discussed how VANs and EDI frameworks are opening up collaboration and networked and value alliance strategies on a scale never seen before. They have looked at the potential offered by intranet and extranet technology, and at some of the human, economic, and technical factors that complicate the purely technical solutions. Now you will be examining how organisations can evaluate these strategies and, furthermore, implement an evaluation process through an effective action plan.

In this module you shall first learn how to assess the readiness of an organisation to undertake the changes needed to evaluate and seize emerging e-business opportunities and the need for an action plan. Various approaches to assess risk and evaluate returns on investment will be introduced before you go on to examine one method in detail in section three. You will then look more closely at one methodology proposed for this purpose, the Balanced Scorecard (BSC), and explore how this assists organisations to turn intangible assets into tangible outcomes.

This detailed review gives you a platform for then studying some of the issues surrounding the creation of an effective metrics programme to assess the effectiveness of the business Internet strategy and e-business value drivers. Finally, you will examine how an organisation can create its own evaluation system and consider how this will impact strategies for change.

In this module you will be asked to be highly participative so that by the end of the module you should have created an outline framework for an evaluation process for your own organisation. You will find that as the end of the course nears, we are constantly referring to previous modules and pulling the issues together. To help in this process we will refer to a case study at the end of this module where several strategic issues come together.

You are advised to read through this and use this as a basis for revising some of the earlier work. The MONDEX case will pull together many strategic issues while introducing additional issues concerning global implementation problems.

Upon completion of this module you will be able to:

Outcomes

- *discuss* the readiness for change of a given organisation,

- *identify* the economics of e-business,

- *describe* the use of and apply the balanced scorecard, and

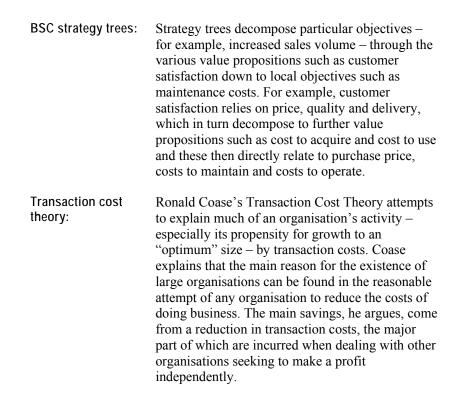- *create* a metrics programme and apply value-added management.

Terminology

Balanced Score Card (BSC):	The Balanced Score Card was developed by Kaplan and Norton in a series of articles published in the *Harvard Business Review* from 1992 onward. BSC is a **tool to evaluate a company's efficient implementation of IT within the business context**, and it does so by combining four perspectives on a project. These are the financial perspective, the client's view, internal processes, and innovation. Each of the four perspectives (descriptions of which follow) must be operationalised into measures of the current situation. The measurements will then be repeated periodically and matched against goals set beforehand.
BSC strategy maps:	A BSC strategy map is a generic architecture for describing a strategy. They show how an organisation plans to convert its various assets into desired outcomes. These would link the necessary attributes from each of the four perspectives together. For example, employees will need certain skills, knowledge and systems (**learning and growth perspective**) to innovate and build the right strategic capabilities and efficiencies (**internal process perspective**) so that they can deliver specific value to the market (**customer perspective**) which will lead to higher shareholder value (**financial perspective**).

BSC strategy trees:	Strategy trees decompose particular objectives – for example, increased sales volume – through the various value propositions such as customer satisfaction down to local objectives such as maintenance costs. For example, customer satisfaction relies on price, quality and delivery, which in turn decompose to further value propositions such as cost to acquire and cost to use and these then directly relate to purchase price, costs to maintain and costs to operate.
Transaction cost theory:	Ronald Coase's Transaction Cost Theory attempts to explain much of an organisation's activity – especially its propensity for growth to an "optimum" size – by transaction costs. Coase explains that the main reason for the existence of large organisations can be found in the reasonable attempt of any organisation to reduce the costs of doing business. The main savings, he argues, come from a reduction in transaction costs, the major part of which are incurred when dealing with other organisations seeking to make a profit independently.

Strategic frameworks

Strategy as simple rules

A very different approach to strategy is suggested by Eisenhardt and Sull (2001). They state that a business can choose one of three distinct ways to compete in the marketspace:

- They can build a fortress and defend it.

- They can nurture and leverage unique resources and competences.

- They can flexibly pursue fleeting opportunities within simple rules.

Each approach requires different skill sets and works best under different circumstances but the strategy that works best for the rapidly changing market of today is **Simple Rules**. Of these three approaches, which best describes Porter's model? Table 5.1 compares these three approaches.

	Position	Resources	Simple Rules
Strategic Logic	Establish position	Leverage resources	Pursue opportunities
Strategic Steps	Identify attractive market Locate defensible position Fortify and defend	Establish a vision Build resources Leverage across markets	Jump into confusion Keep moving and seize opportunities Finish strong
Strategic Question	Where should we be?	What should we be?	How should we proceed?
Source of Advantage	Unique, Valuable, Integrated	Unique, Valuable, Inimitable	Key processes and simple rules
Works best in	Structured, slow change markets	Well-structured, medium change	Rapid change, volatile markets
Duration of advantage	Sustained	Sustained	Unpredictable
Risk	Cannot change easily	Too slow to build new resources	Scared by promising but dangerous opportunities
Performance Goal	Profitability	Dominance	Growth

Table 5.1 Three generic approaches to strategy

Eisenhardt and Sull suggest that those firms who profit most in this new market will be those who recognise new approaches to strategy and are prepared to risk new approaches. They may actually adopt a "patching" approach where the organisation encourages small groups to adopt different strategies according to different strategic philosophies and then overall tries to sew these together. We will look at this a little later in this section.

The overall concept of Simple Rules is as follows:

Identify key processes where your organisation can win (product innovation, branding, for example).

Define your rules

There are only five kinds of rules:

1. "How-to" rules: define how to distinctively execute your business processes. What can be unique to your organisation?

2. Boundary rules: specify resource constraints such as quantity, quality, and growth. They will help you decide quickly which opportunities to pursue.

3. Priority rules: implement ranking processes for your competitive strategies. Focus on return.

4. Timing rules: identify time-to-market and match this against your own capabilities; set specific deadlines

5. Exit rules: be prepared to kill projects if there are signs of possible failure or the project is compromised. Decide what might compromise a project.

Remember that there is a limit to the number of rules: between 2 and 7.

In predictable markets, use more rules for efficiency. In turbulent markets, use fewer rules to increase flexibility.

These rules apply to organisations facing a variety of different opportunities and are designed to help them make a choice. A more complex yet traditional approach to such prioritising is portfolio management, which we explore in the next section.

The approach of Simple Rules is one that is advocated by many successful organisations, Cisco and Yahoo to name but two.

Portfolio management

The concept of portfolio analysis as a way of balancing a number of strategies at any one time has been around since the 1960s, emanating originally from the Boston Consulting Group. It basically suggests that an organisation needs a balance of strategies and product mixes and is based on the premise that any organisation has to make a selection from limited resources.

Therefore, it should choose a balanced portfolio with different characteristics, combining safe long-term return with new speculative projects that feature huge growth but risky growth prospects. The portfolio can be represented in a simple two-by-two matrix.
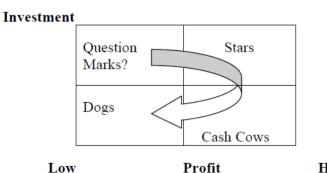

Figure 5.1 Portfolio Analysis

Organisations investing in new products or services must question this investment but hope it leads to a star product that will eventually become a cash cow, returning far more revenue than that invested. Eventually, however, it will cease to deliver a meaningful return. Unfortunately this optimistic scenario also has to be countered with the one where the risky venture never does produce a return and becomes an instant Dog. This approach to planning, again, works best in stable markets, since it reflects long-term planning horizons of five-to-ten years.

Tan (2001) suggests that this technique can apply equally well in the e-marketspace and advises against the three definite paths to failure:

- **Let a thousand flowers bloom** – *spread* investments too wide and too thinly

- **Bet it all** – *gamble* everything on a high-stakes initiative

- **Trend-surf** – *follow* the crowd

Instead, he counsels investing in a limited number of initiatives representing different levels of opportunity and risk. This will provide a conservative approach but prevent the dot-com-type failures we experienced in 2000. The portfolio scenario is based around the two concepts of viability and fit:

- **Viability** is the potential payoff from that project.

- **Fit** is the potential of that project to align with a company's existing processes, capabilities and cultures (a strategy strongly advocated by Porter).
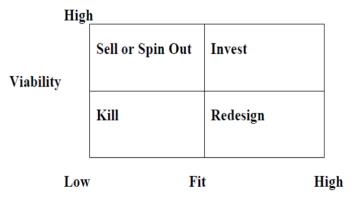
	Fit Low	**Fit High**
Viability High	Sell or Spin Out	Invest
Viability Low	Kill	Redesign

Figure 5.2: A Map for the Net

For example, an initiative rated highly on viability but low on fit is an obvious one to spin off to another business or agency. Diagonally opposite is an initiative that rates high on fit but appears to have low viability. This project might be a candidate for redesign or might offer an opportunity for the extended enterprise to extend further into another value net where the process is more viable, producing a new alliance.

In fact, this approach can be combined very effectively with the Simple Rules approach.

Eisenhardt and Brown (1999) also suggest a portfolio approach but in a very different manner.

Their approach is described as "patching" where, within a single organisation, the strategy is to create a continually changing mix of highly focused, tightly aligned businesses that could respond to marketing opportunities. For example, in Hewlett-Packard, they lopped off pieces of the laser-jet printing business to form new businesses like networked printers, meanwhile launching separate businesses in related products such as scanners and faxes. All of these businesses were at different stages of growth and required different management and marketing skills as well as investment strategies to support them.

This approach has considerable support in large multi-national corporations but can also be applied in start-ups where there is more than one venture opportunity. You are encouraged to learn more about it from the related paper by Eisenhardt and Brown referenced at the end of this unit.

Tjan promotes the use of traditional management techniques applied in this new environment by executives who are highly knowledgeable about the e-market. There are many today who believe that the market is so complex that organisations cannot be fully prepared for the planning process and so must take different approaches such as portfolio landscaping. This involves the sending out of teams of strategists to assess multiple scenarios, seeking out high-risk ventures for maximum return. Many of the cases we are using throughout this course illustrate this approach, but unfortunately no one wants to advertise failure; you should be aware that there are probably as many failures as successes, although you may not be able to read about the failures in the creator's own words. The final approach we will review has previously been introduced in Module 2 with respect to market strategies and is commonly described as coevolution or co-opetition.

Co-evolutionary strategies

In much of modern business theory, emphasis is laid on the value of aggressive competition as one of the key forces that keeps firms lean and drives innovation. That emphasis has been challenged across the board today as the notion of co-opetition gains currency. Certainly co-opetition seems a gentler, if more difficult, game than seeking to compete within the market, taking as much customer base and profit as possible. Such single-minded competition used to disregard the interests of other companies and, in fact, seek to drive competitors out of business.

Some people see business entirely as competition. They think doing business is waging war and assume they can't win unless somebody else loses. Other people see business entirely as cooperative teams and partnerships. But business is both cooperation and competition.

Cooperation with suppliers, customers and firms producing complementary or related products can lead to expansion of the market and the formation of new business relationships, perhaps even the creation of new forms of enterprise.

Co-opetition often involves companies agreeing not to battle in one market even as they fight like dogs in others: witness the "grand alliance" of Sun, IBM, Apple, and Netscape, which is supporting the open

programming language Java to undermine Microsoft's market power. More commonly, companies will compete on actual products even as they cooperate on technical standards, sacrificing a degree of independence to increase the odds of success for the technology as a whole. Look at the huge success of American Airlines in opening its Sabre reservation system to competing carriers.

The concept, and the word, seems to have been taken up most enthusiastically in the computer industry, where strategic alliances have long been common in order to develop new products and markets, particularly between software and hardware firms. Another motivator for the computer industry is that its consumers want to know in advance that a broad range of companies will support a given technology. Companies' cooperation helps such markets grow faster, without waiting a long time to dump competing technologies. It also helps focus scarce resources though not necessarily on what is ultimately the best technology.

Needless to say, co-opetition makes regulatory authorities nervous. There is an old-fashioned word for competitors who agree not to compete: cartel, with its overtures of price fixing. Today's regulators say that they appreciate the theoretical advantages of co-opetition, but in practice they still want to be sure that they can distinguish it from old-fashioned collusion. And as Microsoft's on-again, off-again antitrust investigation shows, separating new ways of doing things right from old ways of doing things wrong is far from easy.

We can expect the trend of "working with the enemy," as some describe it, to continue. And its deployment is not restricted to computing or high tech examples. Industry by industry, corporate giants and newcomers alike are finding ways to work with their rivals on Internet projects.

Competitors such as Compaq and Hewlett Packard, Goodyear and Michelin, and Kmart and Target are cooperating on the development of e-hubs. When Ford and General Motors decided to merge their separate procurement plans into a single e-marketplace, both the scale and the cooperative nature of the new beast stunned the business world.

Eisenhardt and Galunic (2000) believe that cross-business synergies lie at the heart of corporate strategy and are the prime reason for the existence of the multi-business corporation and indeed many of the extended business networks being formed today. However, very few corporations are successful at playing this game. Even Amazon.com failed to realise the expected synergies from its PlanetAll acquisition. Companies which are successful have to master the game of coevolution. The table below is reproduced from Module 2 and shows some of the major differences between standard collaboration and this coevolutionary approach.

	Traditional Collaboration in the Marketplace	Coevolution in the Marketspace
Form of collaboration	Frozen links among static businesses	Shifting webs among evolving businesses
Objectives	Efficiency and economies of scale	Growth, agility, and economies of scope
Internal dynamics	Collaborate	Collaborate and compete
Focus	Content of collaboration	Content and number of collaborative links
Corporate role	Drive collaboration	Set collaborative content
Business role	Execute collaboration	Drive/execute collaboration
Incentive	Varied	Self-interest, based on individual business unit performance
Business metrics	Performance against budget, preceding year, or sister-business performance	Performance against competitors in growth, share and profits

Table 5.2 Traditional Collaboration versus Coevolution (after Eisenhardt and Galunic, 2000)

The basic rules which successful organisations apply are:

- Shift collaborative webs – be prepared to react to market changes or internal organisational change as you mature

- Bring the market inside – encourage internal competition

- Balance the number of links – the virtual business models we discussed in Module 3 may all have a place in your organisation depending on the volatility of specific ventures

- Uncover the high leverage links – be prepared to discard those with low pay-off

- Lay the foundation – let business blocks rule and allow them to uncover the need for strategic links

- Hold regular meetings – not for reporting but for sharing to develop shared strategies

- Get the incentives right - There is a very difficult line here between rewarding individual performance and rewarding collaboration, but if collaboration is the name of the game, then it should be the basis for reward.

What we have discussed in these last two sections is the strategic culture that an organisation may choose to adopt. Dominance of the e-marketspace is undoubtedly a primary strategy for many of the dot-coms and start-up e-businesses, but leadership in a market sector is also a primary strategy for many established, brick-and-click organisations. This market leadership will be based on a number of factors. Plant suggests that it will be based on a mixture of service, pricing, technology and branding aimed at a specific customer base. It will also relate to the stage of e-business growth within the organisation and within the e-marketspace. We will examine these issues in the following sections of this module.

Assessing organisational readiness for change

Before considering specific application of a business plan, each organisation seeking to gain advantage from the emerging ICT and Internet tools should strive to gain an understanding of its current and potential position in the universe of business. There are many ways of doing this, and many ways of translating the results into action; several examples are given throughout this course at appropriate stages. This doesn't mean that there is one right model, or that you should necessarily move from one model to another when considering systems thinking and needs at different levels. Rather, there are many useful ways of looking at the business world, and each organisation stands at a unique intersection of these. If this were not the case, management and systems strategy discussions would not be needed.

Consider the matrix below created by Riggins (1999). This framework seeks to display, in a simple form, how factors combine to allow a single organisation to plot itself in respect of the opportunities offered by contemporary e-business. The value of this matrix lies in the fact that each of us can allocate our own value and weighting to the factors leading to comfortable development of our enterprises, then position ourselves accordingly.
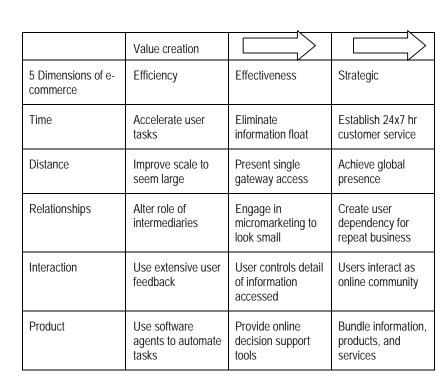
	Value creation	→	→
5 Dimensions of e-commerce	Efficiency	Effectiveness	Strategic
Time	Accelerate user tasks	Eliminate information float	Establish 24x7 hr customer service
Distance	Improve scale to seem large	Present single gateway access	Achieve global presence
Relationships	Alter role of intermediaries	Engage in micromarketing to look small	Create user dependency for repeat business
Interaction	Use extensive user feedback	User controls detail of information accessed	Users interact as online community
Product	Use software agents to automate tasks	Provide online decision support tools	Bundle information, products, and services

Table 5.3 The Electronic Commerce Value Grid

The EC Value Grid offers a means to order and categorise the different features offered by forms of online storefronts. To use the grid, managers are first recommended to determine which of the five dimensions of commerce to target with an online presence.

It is a business decision, not a technical one: Should an Internet presence be used to reduce the time taken to deliver products, services and information? Are distance impediments those most likely to succumb to virtual presence and yield advantage? Can industry relationships be altered to your advantage by using ICT to alter the intermediation chain favourably? Would an Internet presence enable you to deal in an entirely new product or service? And so on.

Once questions along this dimension have been answered, you might want to consider the type of value that is to be created for the customer. Is there a need to work more efficiently? Improve the client's effectiveness? Create and maintain long-term relations with other parties? It is a truism that in every industry examined, it costs more to gain a customer than to keep an existing one.

Once these two sets of questions have found answers, the Value Grid above is suggested to bring about business change by transferring work into an area of new business value for you. In addition, this grid may be used to act as a template against the activities of your firm, and that of competitors may be plotted for comparison. The extent to which a website incorporates several cells in the grid becomes a measure of the site's effectiveness, and an obvious strategy for improvement is to seek to extend one's reach by moving into neighbouring cells. In this way, an examination of possible advantageous moves within the grid will prompt

an examination of the preparedness of the organisation to effect those changes.

The manager's goal should therefore be to move from a simple online presence, one which reduces time and distance barriers, toward adding value through increased efficiency and effectiveness. Once there, your enterprise can consider moving further by changing industry relationships and new partnerships, perhaps with new products.

Demonstrating the need for an action plan

It helps to begin a change effort with an action plan. Although each action plan will be different, you should consider incorporating the following minimum components:

- Strategy – a planned course of action and allocation of resources to meet stated change goals.

- Project organisation – a clear designation of the authority, responsibility and relationships that will see the plan through.

- Roles and responsibilities – a discussion of who will contribute exactly what to the project.

- Systems – the procedures and processes that will be used throughout the organisation.

- Training – teaching the specific skills that people need to enable the change.

- Style – the shared expectations of management style between employees as they work toward common goals.

- Common mission – the agreed statement of the direction in which all will work to achieve organisational goals.

- Technology – the IT/IS and technical platform that will underpin the way work gets done.

The above list provides advice. A close examination will show you that, while this advice appears simple, turning it into effective action steps is not so obvious. A Web search on "organisational change" will yield many different plans and detailed advice, much of it provided by consulting companies eager to work with you to provide their favoured methods for implementing change according to their favoured strategy. It is recommended that, before selecting a change management partner, an organisation tries to work through some of the issues itself. You may not identify a complete plan for change, but the extent to which your organisation is ready to implement a change strategy will be made clearer by areas which remain problematic after serious consideration. "Groundwork to be completed" is another way of describing these unresolved areas.

The economics of e-business

The reason there is so much interest in what computer-enabled communication and technology can do for business is that many who are studying its current and projected use believe that it will radically change the business environment. That is to say, they expect the impact on business to be as great as the development of transport.

Modern road, rail and air transport enables buyers and sellers to be in business contact in a way unthinkable in the age of animal transport. Similarly, rapid, pervasive, inexpensive and computer-facilitated communications look set to change the relationships between all parties to a transaction, almost simultaneously. This is because e-business is about more than trading products by means of a website or an EDI link. It is promoted as being about lowering sales and service costs, getting raw materials and components more cheaply, speedily altering the goods on sale as rapidly as customers demand them, and moving from mass production to mass customisation. Why is this so?

Without going into the details of economic theory and examining all stages of the industrial economy, we need to seize upon a couple of salient and powerfully important factors to understand why this revolution in business, if indeed it is occurring, will in fact change the way in which businesses work and how we plan for their success. For it follows that if the nature of business transactions and the environment in which these are conducted are to change radically, then the tools we use and the ways we think in order to manage and plan for the success of businesses must change equally radically. The next section introduces the notion of transaction costs then gives some examples of the threats and opportunities that arise as a result of e-business.

Transaction cost theory

Ronald Coase's theory of the organisation, developed and discussed with increasing importance attached since 1937, attempts to explain much of an organisation's activity – especially its propensity for growth to an "optimum" size – by transaction costs. Coase explains that the main reason for the existence of large organisations can be found in the reasonable attempt of any organisation to reduce the costs of doing business. The main savings, he argues, come from a reduction in transaction costs, the major part of which are incurred when dealing with other organisations seeking to make a profit independently. Bringing operations inside an organisation saves the cost of finding, dealing with, haggling with and relying on (perhaps unwisely) the reasonable performance of outsiders. This results in savings which would otherwise have been incurred in market transactions with others to get the component parts which are brought inside the same organisation. He notes that, for the buying in of most goods for a company, the times of delivery, the quantities to be dispatched, and the places to which they are to be delivered are not matters of "minor importance."

Consider the case of Company A that makes motherboards for a range of equipment based on a range of computer memory chips. The firm buys the chips on a recurring basis from a few different suppliers.

Demand for these chips, from Company A and others in the market, varies widely from time to time so that neither prices nor levels of available stock are constant. Also, there are wide variations in quality because the silicon wafer technology has not yet solved some basic production problems. Every batch of chips bought in has to be tested, and bad chips have to be sent back for replacement. The variations in availability and price force Company A to buy more than it needs for current production and to maintain excess stock in a nearby warehouse to meet production demand when suppliers cannot come up with goods at short notice. If they did not do this, its assembly lines would have to be turned on and off to match the supply of components. By maintaining a lot of inventory, they can smooth out production line operations by shipping from their own warehouses in a predictable stream to match production flow.

The trouble is, keeping and looking after stock in a warehouse is expensive, especially when the chips change over time and Company A finds itself holding onto chips it can no longer use as new models come to market and are factored into production.

The problem gets worse when the company needs specialised chips from their suppliers, custom products that they have designed themselves. And, the other way around, each chip company sometimes decides to introduce the same functionality in chips of slightly different material specification: Company A then has to adapt its designs to the specific chips available.

What is happening here is that Company A is experiencing high costs for transacting business. Each time it decides to use a chip, it has the cost of deciding whether to design or buy standard components, locating suitable suppliers, comparing their history of reliability and quality with other suppliers of comparable units, negotiating current terms, delivery dates and all the rest of it.

The cost of doing all the necessary activities to support a transaction is a high part of, and sometimes may exceed, the cost of the item itself.

Under these conditions (frequent transactions, uncertainty of supply, and customisation) Company A may choose to buy over, or establish, a company to supply it with its component parts: the company will vertically integrate. The reason is that contracting with outsiders under these conditions is costly. As we have noted, there are costs shown on the books associated with managing warehouse stocks of items not immediately needed, in monitoring the exchanges for errors, in searching for suppliers, and in specifying legal contracts, and so on.

Furthermore, because Company A often needs unique materials, there are no other ready-made sources of supply. So they could be charged a price that includes a very large profit for the supplier. In contrast, for supplies of goods and services that do not suffer from uncertainty of supply and which do not require customisation, organisations will contract with outside firms, because it will be cheap enough to do that. The costs of making and monitoring the transactions themselves will not be

prohibitive, so the organisation may take advantage of hiring specialists to do the job. These specialist firms can deliver a higher quality product, and can often do it more cheaply because of their volume.

According to economic theory, in a perfect competitive market, it is always better to hire out a function unless the transaction costs make that too expensive.

Return on investment and risk analysis

Some EC initiatives could be strong revenue generators but may not create new markets; others may create new markets but will not return a significant profit. Some may create a competitive advantage in the short term but lose this on the emergence of a new competitive initiative in e-business. Resources required to create additional value through e-business need to be examined with respect to their likely return on investment in order to develop a compelling business case.

This is not as simple as it sounds, however. Traditional measures such as discounted cash flow (DCF) and net present value (NPV) do not take into account the values of benefits such as knowledge of customer needs. Calculating any rate of return on investment (ROI) from e-business cases requires an assessment of increased revenue as well as decreased costs; customer value variables, stakeholder value variables and competitive capability variables.

One approach suggested by Parker (1996) and referred to as Information Economics attempts to address some of these issues by classifying values and risks as follows:

Values	Risks
financial	competitive strategy
strategic	organisational strategy
stakeholder	uncertainty

Even at the simplest level – financial values – there are still many factors which are difficult to quantify. E-business increases revenue in at least three ways: by decreasing costs, by accessing new markets and additional segments of existing markets and by redefining the market through new, better and readily available information. In each of these areas there are many different values to be measured against selected value drivers. Deise et al (2000), identify seven variables related to customer value and competitiveness as:

1. **Services** – expanded and improved
2. **Price** – more rational and dynamic
3. **Quality** – improved and more attractive
4. **Fulfilment time** – reduced
5. **Agility** – increased flexibility

6. **Reach** – global expansion

7. **Time to market** – reduced time and increased products

Against these seven variables an e-business should measure seven value drivers:

1. Revenue growth

2. Operating margin

3. Working capital

4. Capital expenditure

5. Taxation

6. Cost of capital

7. Competitive advantage period

Not all of these value drivers will be affected by improved customer or competitive values, but a business can identify where the major impacts will be – and the net driver effect overall – by examining these on a simple matrix and then evaluating these as overall opportunities and threats.

E-business: opportunities and threats

Traditionally – in our terms over the past 20 years – the emerging e-business economic environment has been created by a strong technology push. This has seen the rise of channels of electronic communication between businesses, government departments, and individuals on an unprecedented scale. This digitisation of ordering, reporting and product information has created opportunities for major change, if the business implications are grasped and properly managed.

At this stage in your course, you will need no convincing that information is becoming a more and more important product component, in particular in the service industries. The value of products is rising, often directly as a result of the increasing use of information; the digitised capture of information regarding electronically-based transactions allows for ever more sophisticated customisation of products by smart information management. There is posited the goal of mass customisation: the tailoring of a product specifically for an individual consumer, based on his or her needs. The key to this is the ability to customer preferences and behaviour compactly and efficiently. This information is relayed to a flexible manufacturing process allied to a responsive network of suppliers or other intermediaries.

Dell Computers is a good and often quoted example of a supplier that uses electronic trading networks. It does this to collect and analyse customer orders and to control the creation and delivery of made-to-order goods to their customers, normally faster than conventional competitors and with a rich layer of value in the form of information supplied.

The product advertised can be supplied more effectively because electronic information flows permit attention to personal demand and circumstance. The potential also arises for the sensing and testing of

demand for new goods and services that can be exploited by electronic means.

Would a customer already on a website react positively to tailored news casting? Database access? Free chips in an online casino? And so on.

We readily see that new electronic information flows dramatically alter sales and distribution channels, having impact on two categories of primary flows: physical goods and virtual goods.

The physical goods may be advertised and ordered online yet delivered traditionally, whereas virtual goods may be advertised, customised, ordered, paid for, and delivered online without having the customer move from their chair. In the first category, e-business comes into its own in markets in which information (for example, an array of choice) forms a significant component of value, rather than in commoditised and well-known products.

The second category consists of products that can be digitised – books, banking and investment transactions, insurance and travel contracts, off-course betting, and so on. For virtual goods, the world of e-business provides a new distribution channel, for example by means of the Web. We do not need to visit the racecourse to place a bet or collect our winnings if we have a remote terminal or an account which can be accessed by our electronic device – be it phone or PC. This category is obviously in use, and examples will be familiar: you may even have downloaded your own selection of music from a website, checked online travel agents or investigated online banking. While visible to the consumer, these are but tiny fragments of the vast amount of business-to-business activity currently conducted electronically and changing the ways in which firms think and operate.

What is less easy to visualise, perhaps, is the case of the business firmly in place in a physical location selling physical objects. In what way can its relations with its customers be improved to mutual advantage by adopting an e-business strategy? We invite you to consider a hypothetical case (derived from Saanen, Verbaeck and Sol, 1999).

In 1980 Lots of Wine was an ordinary wine shop on the Peak in Hong Kong. It had a constant number of customers who came into the store. They chatted with the staff, were told about special offers and new additions that might please them. They chose their wines, paid for them in cash or by card, and generally took the goods home in their cars. The parking problems around the store and the price of a parking space meant that the owner did not run a delivery vehicle – while he did not advertise a delivery service, he took care of special customers after shop hours by delivering goods with his own car on the way home, or if the order was for a function or large event, would arrange for a taxi or local van to make delivery on a one-off basis.

By 2005 Lots of Wine had changed enormously. It has no physical presence on The Peak, nor does it have any stock. The owner has moved to Macau and runs the store from his computer using a server in Australia and a bank in Switzerland. In place of a rack of bottles he pays an Internet Service Provider, Yauchin, to maintain a set of Internet Web pages linked to email and newsletter software running on the same server

and accessing the same databases. This website serves customers, not only in Hong Kong, but all over the world (many of his old customers have moved from Hong Kong but still do business with Lots of Wine and they have attracted new customers and friends).

Customers fill in a Web order form which is sent to "Wine Distributors International." This company relays the order to the nearest regional centre to the customer which, in turn, routes an automatic copy of the order, acting as a delivery order, to the local DHL [global delivery service] office.

As DHL picks up and delivers the order to the customer, the credit card company has cashed the money from the customer's account and transferred it to the outsourced financial department of Lots of Wine. (This is a separate company: Bits of Finance). This company also pays, monthly, Lots of Wine, Yauchin, and Wine Distributors International The latter works for other order takers and deals directly with suppliers which it pays.

The above imagined example is currently exemplified in part by companies such as Dell and Amazon which lower their prices, improve their service and rely on integration with other companies to provide service to their customer. In 1999 Dell was able, using these techniques, to compete by offering shorter delivery times than their competitors (by a factor of 50 per cent) and maintain a stock level three times lower.

Are there any drawbacks to this apparently simple way of transforming the economics of doing business? Of course there are, and they are industry-specific and not yet fully apparent. For example, it will become apparent that e-business enables and requires new product capabilities and new services from those already in business. Equally, however, the way is opened for new entrants. The positions of current players are threatened, especially those who act as intermediaries.

As a result we see a trend for e-business to bring producers closer to the consumer, leading to the reduced need for intermediaries (wholesalers, distributors and the like). This trend toward disintermediation has been observed in the financial markets and is being followed by developments in the insurance and travel industry. Does this mean less employment? Probably not, but it does imply that different forms of employment will prevail.

The opposite trend is in action at the same time. There is a process of re-intermediation occurring as e-business creates the possibility of new and different forms of intermediary – the bookseller Amazon.com being the world's largest and best known example. In the case of Lots of Wine above, the shopkeeper as intermediary with a physical inventory and a face-to-face service has reinvented himself as a cyber intermediary. In the following sections we shall examine the incentives and tools with which to reinvent a business.

The balanced scorecard (BSC) approach

Background – business systems planning

The drive to formalise and manage the introduction of new technologies and business objectives, in tandem if possible, is not a new whim. It has attracted practical and theoretical attention for decades. One such system, Business Systems Planning, became popular as a rigorous method to be applied when general consensus and discussion failed to unite corporate planners. You were briefly introduced to this approach previously.

To recap, Business Systems Planning, as with many traditional top-down methods of working, requires the user to follow three basic steps in sequence:

1. The first step is formally agreeing on the business vision, the mission statement and objectives that follow from this vision. These determine the structures needed, together with determining the optimal functions and/or processes to be implemented.

2. The second step is to formulate a strategy for putting in place the IT/IS infrastructure needed to support the business aims and objectives. At this stage the IT implementation itself will call for the top-down determination of objectives, functions and suchlike to enable the support activity to occur.

3. Third, and lastly, the IT architecture is defined in terms of blueprints, data models, network design and so on.

In this process it is assumed that the goal for the IT planners is to come up with a platform of capabilities that are aligned with the business goals. This would normally be a medium- or long-term practice but, unfortunately a stable and robust foundation in the form of an accepted and enduring business plan is increasingly hard to find. New business opportunities and IT capabilities are emerging rapidly and any plan that requires several years to implement is likely to be obsolete before completion. The time lag between business planning and IT implementation is often too great to be acceptable.

Added to these problems is the growing awareness that business activity is as much a matter of managing and encouraging human resources and initiative, as it is a mechanistic deployment of resources. This means that for e-business applications we need to identify and implement an ongoing process for strategic planning, often now referred to as a "perpetual planning process."

This process not only allows for the development of strategic plans but also evaluation of the effectiveness of such plans.

The concept of a top-down approach is discarded in favour of a multi-view approach, both internal and external to the business. The most accepted methodology applied to e-business in this context is BSC (Balanced Scorecard).

Principles of the balanced scorecard (BSC)

The Five principles of BSC are shown in Figure 5.3.

Mobilise Change Through effective leadership

Translate strategy to operational terms

Make strategy a continual process

BSC

Align the organisation to the strategy
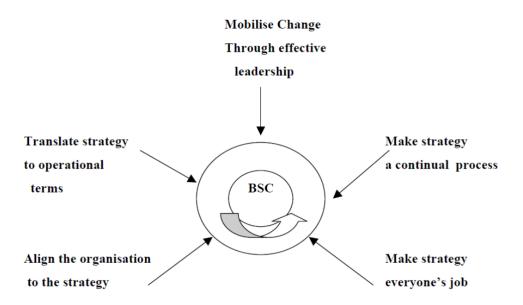
Make strategy everyone's job

Figure 5.3 Principles of a strategy-focused organisation

The balanced scorecard was developed by Kaplan and Norton in a series of articles published in the *Harvard Business Review* from 1992 onward. This approach was the result of their long-term investigations into organisations who had sustained strategic performance as early and successful adopters of new technologies. For each of the five principles, they have defined a set of processes and tools:

Translate strategy to operational terms:

- Develop strategy maps
- Introduce balanced score cards

Align organisation to strategy:

- Define corporate role
- Identify business unit synergies
- Identify shared services synergies

Make strategy everyone's job:

- Create strategic awareness
- Use personal scorecards
- Introduce incentive-based compensation

Make strategy a continual process

- Link budgets and strategies
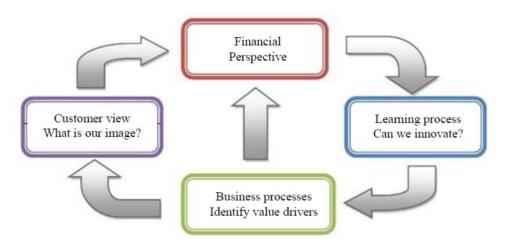- Create systems for strategic review

- Encourage strategic learning

Mobilise change

- Communicate vision

- Establish a governance process

- Create a strategic management system

These five principles allow the organisation to focus and align their executive teams, business units, human resources, information technology and financial resources to their organisation's strategy. BSC is a tool to evaluate a company's efficient implementation of IT within the business context, and it does so by combining four perspectives on a project. These are the financial perspective, the client's view, internal processes, and innovation (Figure 5.4).

Figure 5.4: The Balanced Scorecard (BSC)

Each of the four perspectives (descriptions of which follow), must be operationalised into measures of the current situation. The measurements will then be repeated periodically and matched against goals set beforehand.

Customer perspective

The customer perspective measures address the question, "How do customers see us?"

Consequently, performing well in the eyes of customers is a priority for management and an integral component of strategy. By addressing customers' needs, the balanced scorecard is a means by which management can measure the company's performance in this area and become "customer driven." This therefore requires that the measures adopted reflect customers' expectations and not what managers perceive those expectations to be.

Internal business perspective

Customers' needs and perceptions are not always directly under the business's control.

Customer-oriented measures therefore need to be translated into indicators of what the business must do to meet customers' needs. These business processes are under the organisation's direct control and provide the means by which its strategic objectives can be achieved. Examples include aspects of productivity, quality, and time taken from production to marketing. Cost reduction represents an important component of business operations and may not be seen just as a means to an end of customer satisfaction but as a distinct strategic advantage. If customers perceive the business to be efficient and reliable, then they are more likely to maintain a relationship with it, which is necessary for the achievement of the organisation's strategic objectives and maximising shareholder value.

It is important that employees be aligned with the corporate strategic objectives, as it is their actions at an operational level which affect the business processes.

Innovation and learning

Organisations must strive to improve performance and promote continuous improvement. Failure to do so may lead to a loss of competitive advantage. Overall targets need to be constantly assessed and improvements made. To remain ahead, the organisation must improve quality, reduce costs and increase efficiency at a rate that is superior to its competitors. This means continually improving its processes, eliminating non-value-added activities, refining existing products and identifying new opportunities. This is the essence of creating shareholder value which can be achieved by penetrating new markets and increasing margins by increasing revenue and/or reducing costs.

CUSTOMER PERSPECTIVE How do the customers view the company?	FINANCIAL PERSPECTIVES How do the shareholders view the company?
Mission: - To deliver the best added value to the customer Objective: - New products - Partnership with customer Measures: - Percentage of the new product of total turnover - Joint development efforts.	Mission: - Assume added value for shareholders, both in the short and long run Objective: - Survive - Prosper Measures: - ROI and cash flow - Market share.
INTERNAL BUSINESS PROCESS PERSPECTIVE How can the company improve its internal operations to improve the services to customers?	LEARNING AND GROWTH PERSPECTIVE What should the company do to remain successful in the future?
Mission: - Efficiently produce and deliver products and services Objective: - Excellence in production - Excellence in deliveries Measures: - Cost prices per unit - Average throughout time for order.	Mission: - Innovate, improve and learn to the maximum Objective: - Technological leadership - Product focus Measures: - Time necessary to develop a new generation of products - Number of old products compared to number of new products.

Table 5.4 The BSC approach (Kaplan and Norton, 1992)

Appropriate measures are determined by the purpose for which they are required. For example, if the focus were on improving existing technologies, appropriate measures would include the percentage reduction in scrap and cycle time. Lead time for new products compared to that of competitors' products would be an apt measure if the strategy were penetration of new markets.

Underlying these measures is an emphasis of continuous improvement in business processes, particularly with regard to factors such as research and development and training.

Financial perspective

Shareholder value is only maximised if profitability is consistently improved. Qualitative achievements such as maximising customer satisfaction or improved process efficiencies are desirable if they contribute to the organisation's strategic goals. Experience has shown

that good performance in the more qualitative areas does not necessarily translate into financial success. A business may make significant improvements in its operations yet fail to capitalise on those successes by increasing profitability. Such a business may have invoked the hidden costs associated with excess capacity. An improvement in productivity if not accompanied by an increase in level of production and sales (thereby increasing revenue), creates excess capacity.

Appropriate financial measures are therefore important within the balanced scorecard framework, as they indicate whether the company's strategy, implementation and execution are contributing to bottom line improvement.

In summary, the objectives of the balanced scorecard project are to:

- clarify and gain consensus about vision and strategy;

- build a strategic management team;

- communicate the strategy throughout the organisation;

- align department goals to the strategy;

- set strategic targets;

- perform periodic and systematic strategic reviews; and

- obtain feedback to learn about and improve strategy.

Preparing the balanced scorecard

In general, it is accepted that there are three principles which must be kept in mind when proceeding with the implementation of a scorecard policy.

Principle one states that cause-and-effect relationships between the components must be built in and understood in order that the quantifiable effects of quantified causes can be readily appreciated. For example "what actions will influence our customer image?" and "how will our customer image be measured?"

Secondly, there must be drivers of performance (training, incentives and the like) demonstrably affecting operational outcomes. For example "what training is required to improve our delivery to customers?" and "how will we measure the effectiveness of such training?"

Thirdly, there must be direct linkage to financial outcomes – in other words, the success or otherwise of projects and initiatives must be realised on the balance sheet. Where this does not occur, the scores are not being kept for important items. For example "what net margin return do we expect for success?"

This method stresses the use of measurable goals and measurement of strategies to drive it, framed within a three-tiered structure:

1. The mission as conceived as the overarching and driving force (to be the industry's preferred supplier).

2. Objectives derived from the mission (to introduce appropriate products as needed and before our competitors).

3. Performance indicators (percentage of customers giving repeat orders; proportion of profits derived from products less than two years old).

Van Der Zee and De Jong, (1999) suggest that a simple table outlining this approach might look like Table 5.5:

PERSPECTIVE	GOALS	INDICATOR (KPI)
Financial	Revenue	US$50 mill p.a.
	Net margin	15%
Customer	Satisfaction per sale	8 out of 10
	% of clients retained	90%
Learning	Training hours per employee	80 p.a.
Processes	Productive: nonproductive hours	75%

Table 5.5 Example of a Balanced Business Scorecard

In practice, a company looking to build a scorecard would first secure the understanding and support of business and IT management, who must be committed to the integration of business and IT strategies to assure success. Following this confirmation, the project leader would gather data on measures and metrics which can be used – much performance measurement and assessment of drivers will probably already be in place. Thirdly, the company-specific scorecard is to be developed.

A well-constructed scorecard will contain a good mix of measurable outcomes and performance drivers. Outcomes such as productivity measures alone without linked performance drivers will not show how these outcomes are to be achieved. Similarly, performance drivers put in place with no links to outcomes may indeed result in short-term improvements but will not show any correlation between resources put into these and financial outcomes. This latter is imperative for the success of this method:

> *"A failure to convert improved operational performance into improved financial performance should send executives back to the drawing board to rethink the company's strategy or its implementation plans." (Kaplan and Nolan, 1996).*

Strategy maps and strategy trees

A BSC strategy map is a generic architecture for describing a strategy. It shows how an organisation plans to convert its various assets into desired outcomes. These would link the necessary attributes from each of the four perspectives together. For example, employees will need certain skills, knowledge and systems (learning and growth perspective) to innovate

and build the right strategic capabilities and efficiencies (internal process perspective) so that they can deliver specific value to the market (customer perspective) which will lead to higher shareholder value (financial perspective). Strategy trees decompose particular objectives – for example, increased sales volume – through the various value propositions such as customer satisfaction down to local objectives such as maintenance costs. An example is shown in Table 5.6. Customer satisfaction relies on price, quality and delivery, which in turn decompose to further value propositions such as cost to acquire and cost to use and these then directly relate to purchase price, costs to maintain and costs to operate.

		Cost to acquire	Purchase price
			Projected ROI
	Price	Cost to use	Cost to maintain
			Cost to operate
Customer Satisfaction	Quality	Does what it says	Conformance
			Reliability
		Does what I need	Performance
			Features
	Delivery	Arrives when they say	On-time delivery
		Arrives when I need it	Lead times

Table 5.6 Example Strategy Tree

These cause-and-effect trees help to bring strategy down to the level of each and every employee.

Implementing the BSC

Ten steps are suggested for successful implementation of a balanced scorecard approach:

1. Focus on the strategic direction: all business units should be aware of the overall strategy and organisational mission.

2. Use a grassroots approach: the smallest viable strategic business unit (SBU) should be the locus of implementation.

3. Use a less-is-more philosophy: choose between six and eight key performance indicators (KPI) for each SBU rather than 30.

4. Link performance measures to key success factors: ensure that you have identified reasonable and achievable measures for success.

5. Treat the balanced scorecard implementation as a strategic initiative: this is not a control system.

6. Search for leading indicators: emphasise lead rather than lag indicators.

7. Search for cause-and-effect links: altering one part of the process may have hidden effects on another process.

8. Link key performance measures to compensation: re-engineer your reward systems to link in with KPI achievement.

9. Use the scorecard as an everyday management tool: make this part of corporate policy such that all employees are familiar with the measures.

10. Continuously improve your system: today's improvement becomes tomorrow's norm – it is important to maintain a living, evolving system.

In essence, the scorecard becomes a cybernetic or feedback system of if-then statements linking financial, customer, business process and learning objectives. This will only be an effective mechanism if it also incorporates a new system of measurements.

Measures of success

The balanced scorecard establishes a framework for performance evaluation, but the actual measurements applied remain at the discretion of the particular organisation. There are four specific areas in the balanced scorecard where dynamic and strategic measurements need to be applied:

1. Measuring corporate contribution

2. Measuring user orientation

3. Measuring operational excellence

4. Measuring future orientation

Short-term financial evaluations such as control of IT expenses and third-party sales need to be considered as part of the corporate contribution along with the longer-term business value of new IT projects and the business value of the whole IT function. FedEx believe that transforming their IT sourcing from a tactical to a strategic operation has helped them save USD 50 million over three years, for example (Avery, 2000). The type of financial measures that can be applied to ascertain these figures are exemplified by the Information Economics approach (Parker, 1996), using a scoring technique for value and risk.

Similar measures need to be developed for user orientation, operational excellence and future orientation and performance drivers related to outcome measures. Examples of other approaches include the incorporation of Activity Based Costing (ABC) into the BSC, Economic Value Added (EVA) and Market Value Added (MVA) and Inclusive Valuation Methodology as a knowledge asset evaluation approach. None of this is easy.

In truth very few examples can be found of organisations who apply a fully comprehensive approach to measuring value – particularly in regard to intellectual assets. Whatever the approach, consideration should be

given to the organisational level of implementation. Generally it is most successful at the smallest replicable unit in the organisation. This can be a process rather than a functional department. Micro-units permit the highest possible degree of segmentation, strategic fine-tuning, added value and customer satisfaction at the lowest cost. The larger the organisation, the more refined are these replicable units and the greater their leverage for creating added value.

Internet strategy effectiveness

At the beginning of this module, you looked at a framework for assessing your organisational readiness for change. Customers expect the low cost of transactional services via the Internet to be matched by easy-to-use, ergonomic interfaces, backed up by an information-rich, premium, global 24x7 level of service. How does the organisation assess the effectiveness of their online strategy and how do they decide to position themselves? Chapter nine in your recommended text provides a useful framework which also acts as an excellent summary to review the issues we have discussed in this module.

Plant (2000) suggests that there are three phases for effective evaluation:

1. Determine the forces, both internal and external to the organisation, that influence the e-commerce strategy formulation.

2. Create a metrics program based on the use of value criteria in the form of an Internet effectiveness scorecard.

3. Determine the effectiveness of the value criteria at the ownership levels, the process levels and the transactional levels.

We will look briefly at each of these in turn.

Determine internal and external forces

Plant identifies two groups of forces external to the organisation as customers and marketspace rivals. A more comprehensive approach for identification comes from the five forces model (Porter); an organisation can combine this with other approaches such as a SWOT analysis. For internal forces, Plant identifies the content and process owners. These are sometimes referred to as the stakeholders and/or users and the basic systems environment – IS, e-commerce, system engineers and resources. He emphasises the tension between the ideal requirements and systems constraints. In a later module we will look at particular approaches to IS management which can alleviate some of these tensions.

When completing this stage it is important to return to the assessment of readiness as shown in Table 5.7 or something similar so that you can identify exactly how far your online strategy should penetrate the organisation.

Any organisation wishing to maximise its effectiveness and profitability as an e-business needs to recognise how virtual it is, how virtual it should be and how it should manage the opportunities and problems that arise. The ACHIEVE Working Group (in a European think tank called Impact

Programme, 1998) identified four primary characteristics of virtual organisations as:

1. Dispersion (multiple locations)

2. Empowerment (devolution of powers)

3. Restlessness (acceptance, even enthusiasm for change)

4. Interdependence (co-operation and synergy between and within organisations)

These four characteristics can be used as a measurement scale where an organisation chooses a number of characteristics that are important to it and defining a number of identifiable levels of virtuality for each characteristic. For example, the degree of dispersion could be measured on the following scale:

A. there are no physical locations, staff scattered throughout the world: for example, Institute of Catalysis,

B. there is one HQ building, staff are scattered throughout the world: such as Interpol,

C. there are many physical locations where staff are employed: for example, BP, and

D. the majority of staff work in one central location: for example, Bank of England.

The organisation can then measure and plot its level of virtuality and that of its major competitors and assess the impact of changing or not changing. Criteria that might be applied are identified in Table 5.7 below.

Dispersion	Empowerment	Restlessness	Interdependence
Number of locations	Degree of definition of accountabilities	No new products/services; markets; processes; job profiles per year	No formal alliances with external organisations
Personal workplaces	Number of decision levels	Level of staff education	Number and importance of informal alliances
Amount of hot-desking	Degree of risk acceptance	Level of openness to change	Level of influence on external organisations
Extent and quality of reach	Investment in workplace skills	Rate of change of appraisal criteria	Proportion of staff to line functions
Degree of political/economic support in any one location	Complexity, magnitude and scope of decisions by customer-facing staff	Degree of anticipation to changing markets	Degree of contact between sister companies
Degree to which dispersion is visible to the customer		Level of stress in workforce	Use of cross-functional/process teams and interactions

Table 5.7 Criteria for Measuring Virtuality

The ACHIEVE group emphasise that there are four main management concerns when overseeing such change:

1. Managing and changing culture
2. Communication, internally and externally
3. New approaches to control
4. Managing and refreshing knowledge as a major asset

None of these is easily solved, but they must be given priority over technological change.

Create a metrics programme

Again, Plant suggests three steps:

1. Define a set of metrics to measure progress to goals as represented by value criteria.
2. Have clear projected expectations for each metric concerned.
3. Create automated data delivery systems for internal and external comparisons.

These steps revolve around an Internet effectiveness scorecard which ranks seven criteria on a scale from 1 to10. The seven criteria are:

1. Financial impact
2. Competitive leadership
3. Brand
4. Service
5. Market
6. Technology
7. Internet site metrics

Each of these is supported by a series of questions and a metric to measure each issue.

Earlier in this module we looked at an alternative model from Deise et al (Table 5.4). Your organisation should consider several models and develop your own set of issues and relevant measures.

Applying value criteria

Plant suggests the application of a specific framework known as e-value maps. These maps exist at two levels: stakeholder level and process level. This technique is similar to that of Critical Success Factors (CSF) reviewed in Module 3 where each stakeholder determines their three most important success criteria and these are then passed through multiple layers of the organisation until a mutually agreeable set of criteria evolves. This is again not as easy as Plant might suggest, but is a useful tool for promoting discussion. For organisations pursuing this seriously, a much more rigorous methodology, MECE (Mutually Exclusive Collectively Exhaustive) can be applied.

To arrive at process level, most organisations will use the value chain and analyse all the processes individually. Whilst this method can be very helpful, one of its drawbacks is that it ignores interrelationships with other organisational networks along the value chain. An alternative technique which can be applied is SVA.

Strategic value analysis (SVA)

Competitive advantage in the marketplace ultimately derives from providing better customer value for equivalent cost, or equivalent customer value for a lower cost – the "standard differentiation" or "lower cost strategic" choice. Occasionally, but rarely, a company achieves both by providing better value at a lower cost.

Regardless of strategic focus, the organisation needs to measure the added value across the whole value chain to determine exactly where, in the chain, customer value can be enhanced or costs lowered. This includes linkages upstream as well as downstream in the overall value alliance. The value chain analysis will break down the chain from basic raw materials to end-use customers into strategically relevant activities in order to reveal the behaviour of costs and the sources of differentiation. Since no two companies compete in exactly the same set of markets with exactly the same set of suppliers, the positioning within the overall value chain for each company is unique.

Shank, Spiegel and Escer (1998) identify SVA as a technique for quantifying business issues and opportunities across the entire value chain for an industry and suggest it differs in two important ways from traditional business analysis:

1. SVA disaggregates activities into the fundamental building units of the full value chain, from suppliers to consumers, and then groups these activities consistently with the way markets actually work.

2. SVA evaluates each stage of the chain on an economic-value basis, eliminating problems caused by historical cost, transfer prices and accrual-based accounting.

If you wish to determine whether SVA would be a useful framework for strategic analysis in your organisation, here are four tests that can be applied:

1. Are there new or emerging players in the industry (within any part of the value chain) who may be more successful than existing players?

2. Are these companies positioned differently in the value chain from current players?

3. Are new market prices emerging across segments of the value chain and are these markets sufficiently deep to reflect arms-length trading?

4. If we used these market prices as transfer prices in our company, would it fundamentally change the way that the major operating units behave?

If the answer to any of these questions is "yes" then SVA will be of far greater benefit than a standard "value-added" (revenues minus purchases) approach. Applying these four tests will provide an explanation of the relative position of your company in an industry. Then the tests can be used to guide a plan for management action with regard to overall structure, markets and assets and reporting relationships most likely to succeed in specific parts of the industry. In this way, SVA is uniquely helpful in understanding restructuring processes that may be required in periods of dramatic change.

Activity-based approaches

This module has reviewed many different approaches to evaluation, but what they all have in common is that they are activity-based. Ideally, companies should develop their own approach, selecting those techniques which are most relevant to their situation. Whichever, there will be four stages in the development of the evaluation process:

1. Create a set of value criteria for evaluating Return on Investment (ROI)

3. Create a metrics program to measure and monitor these value criteria

4. Develop a system for data capture and to allow for "best of class" comparisons

5. Perform ROI analysis and act on the results

One approach which covers all of these stages is BSC, and companies may want to adopt this to ensure a comprehensive evaluation, but the adoption of BSC is not a simple process – it will completely change the way the company operates and the culture of the organisation.

For those organisations at the beginning of the learning curve, simplified approaches which do not force radical change may be more appropriate.

Module Summary

Summary

This module has explored the stages involved in the development of an evaluation strategy. These are:

- **assessing organisational readiness for change** helps the organisation to focus on where the organisation is currently and where they should be heading in an e-business environment;

- **identifying the economics of e-business** helps the organisation to compare various different e-business opportunities by evaluating their net value effect against various shareholder values;

- **evaluating the needs for change and performance measurements for the future.** Employing the BSC technique allows the organisation to assess all four levels of organisational interactions and to establish an integrated performance evaluation system to achieve the new e-business mission; and

- **developing a strategy for evaluation is the final stage** where the business decides how it will package these new values into a metrics-based evaluation process.

Developing evaluation strategies for e-business is not a straightforward sequential process but rather a perpetual and iterative learning process where the organisation needs to have a built-in learning and relearning capability. This implies that the process must be managed and also communicated throughout the organisation, and we will give further examination to how this might be done before the course is over.

Assignment

Assignment

1. We would now like you to apply one or several of these frameworks to an organisation with which you are familiar in your local environment. For example, come up with a set of Simple Rules. (You might want to refer to your previous case study Dell for some pointers to other famous examples such as Cisco). Possibly you could develop a portfolio analysis of current or proposed Internet ventures, or you could identify a set of Strategic Business Units (SBUs) who should be allowed to apply different strategies in order to coevolve.

    If you have no familiarity with a company of the appropriate type, then use one of the case studies discussed so far, or try to apply a framework in the public domain to your local government or educational institute, for example.

2. There are several articles referenced at the end of this module which will provide you with a more in-depth understanding of the balanced scorecard and its application. If you are strongly interested, you can satisfy your curiosity with a text from Harvard Business School Press text – "The Strategy Focused Organisation" by Kaplan and Norton. Its detailed case analyses cover the subject vividly.

    When you are confident that you have grasped the principles of the balanced scorecard approach, you should use Figure 5.2 and Table 5.5 from this study module to guide you in preparing a balanced scorecard for the business unit or company you work for.

    Remember to work at the lowest strategic level and so choose a business unit with a defined mission and a specific subset of strategic activities. Identify in which generic strategy – operational excellence, customer intimacy or product leadership – your company seeks to excel and also any area where there are no objectives or metrics and briefly discuss these.

3. You should try to complete the matrix below, alone or with others from your organisation, to gain an appreciation of the scale of problems facing you once you move from simplified textbook examples to the multi-dimensional business world.

Major issues   Response identified

Major issues	Response identified
Why do we need to change now?	
Can we describe the present state?	
What is the future state we want to see?	
What will change?	
What will remain constant?	
What vulnerabilities will we create during the change process?	
State the critical success factors for successful change	
What are the major impediments to change?	

If the above matrix can be completed to the agreement and satisfaction of interested parties, then you may want to move on to consider the major issues that will arise once the decision to go ahead with a change is made. Again, you should consider the matrix below and ensure that agreed-upon responses can be supplied in the right-hand column to match the queries raised on the left.

Major issues   Planned response

Major issues	Planned response
Can we define our change strategy?	
List the operational definitions of desired change	
Have we positioned changes as a desirable challenge to affected staff?	
How do we best use our advantages to assist in change?	
How do we minimise adverse effects on staff and operations?	

The above checklist for items of interest and action may work well when applied by an experienced group of practitioners, but a discussion with colleagues may reveal that reaching consensus on open-ended questions is a lot more difficult than might be supposed. For this reason there has been a move to introduce systematic thinking to the measurement and improvement of corporate information technology. The next section looks at the economics of e-business and how measurements and risk analysis might be applied before going on to examine in detail the Balanced Business Scorecard approach.

4. Using the example of the 'Lots of Wine' case presented in this section, you should now attempt to perform a value driver analysis (using the Diese et al model discussed in the previous section) as shown in the matrix below using a scale of 0-3 where 3 means high significance, 2 average significance, 1 low significance and zero no significance.

Add up the scores along each row and briefly discuss those areas where the net driver effect is most significant to gain an appreciation of the different levels of impact that may result from en e-business development.

    a. As a competitor, how would you evaluate the competitive advantage period?

    b. Is a price advantage sustainable, for example?

Value drivers	Service	Price	Quality	Fulfilment time	Agility	Time to market	Reach	Net driver effect
Revenue growth								
Operating margin								
Working capital								
Capital expend								
Cash tax rate								
Cost of capital								
Competitive advantage period								

Case Study Reading 5.1

Case study

You should read carefully the case study 5.1: Mondex International: Reengineering Money. Available: http://wings.buffalo.edu/academic/department/som/isinterface/is_syllabus /mondex/mondex.html.

See Ives, Blake and Earl, Michael (1999). Mondex International: Reengineering Money. You will find this in Ives (1999), listed in the references at the end of the module. There is also a specific description of the Canadian rollout of Mondex in Huff (1999).

a. Discuss the problems encountered in establishing a worldwide rollout of an e-business venture such as this with particular reference to infrastructure, coordination, strategic alliances and managing technology-driven change. Support your arguments by references to the case descriptions supplied.

b. Using your own resources, prepare a summary of developments in the Hong Kong Bank rollout of Mondex between 1995 and 2000. (It is suggested that you begin by visiting any sites referred to in the text and searching the Web for press releases and similar sources of information.) Ives, Blake and Earl, Michael (1999). Mondex International: Reengineering Money. Available : http://wings.buffalo.edu/academic/department/som/isinterface/is_ syllabus/mondex/mondex.html

Assessment

1. Assume that you were in a position to advise the CEO of a 24-hour convenience store chain in your local market with respect to e-business. What would you advise him with regard to a strategy of Simple Rules?

    a. Using each of the five rules, give examples that could have been applied in this particular scenario.

    b. Now try to apply Simple Rules to your own environment. Can you identify five?

2. Apply the electronic commerce value grid to your own organisation (or one with which you are highly familiar) and identify the priorities for value creation through online development along each of the five dimensions.

    a. Remember that not all dimensions will have the same importance. For example a 24-hour-per-day, seven-days-per-week operation may not provide any advantages to your organisation if clients only want to access these services during fixed periods.

    b. Consider how the organisation could implement their online storefront to maximise the benefits and where they should focus for future development.

3. Your CEO has recently come across the terms "Portfolio Analysis" and "Balanced Scorecard" in relation to developing an effective organisational strategy but he does not fully understand these concepts. He has asked you to summarise for him the essential differences between the Portfolio Analysis and BSC approach. List five major differences and briefly summarise these.

4. Assume that you are working for a national rail transportation service for both passengers and freight country-wide. Develop an outline table identifying possible missions, objectives and measures for each of the four perspectives.

    a. Now look at the customer perspective, and identify six KPIs which could be used for customer satisfaction and appropriate measurements that might be applied.

    b. If you were now to look at a local metro or light rail system designed essentially for commuter transport, what differences would this make to your KPIs?

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