



Module 3

Strategic Role of Information Systems

Overview

In this study module, you look at the evolution of Strategic Information Systems Planning (SISP) approaches and explore why these have had to change to suit the new networked organisation of today. SISP has undergone some radical changes, but from the perspective of this course, the most important change has been the need to encompass inter-organisational strategies in an externally focused “co-opetitive” strategic framework.

Having gained a clear understanding of the complexities of SISP, you will move into the section of the concept of value chain integration. You will now be able to see how a single firm’s integrated value chain extends into supply and demand chains and will further explore the concept of the virtual value chain. The potential for exploiting virtual value chains as part of the e-business planning process is reviewed with strategies for positioning new forms of business within the virtual market. At this stage we will introduce a number of different case examples for you and ask you to identify their strategies through the various models discussed. We particularly want you to be able to identify partnerships with partners, suppliers, agents and alliances and the extended value services these allow you to offer to customers or clients.

By the end of this module you should be able to participate in an e-business planning process for your own organisation and to evaluate the stage of growth you have reached in ICT exploitation and growth. More significantly, you should be able to identify new opportunities for strategic developments.

Upon completion of this module you will be able to:



Outcomes

- *describe* the evolution of the SISP process through four stages of IS.
- *apply* SISP to business networks.
- *apply* Supply-and-Demand Chain Management techniques to B2B and B2C analysis.
- *identify* stages of growth in IS and e-business.
- *participate* in an e-business planning process.



Terminology

Channel enhancement strategies:

In the e-business, channel enhancement means using Internet technologies to enhance sales or client services by adding an electronic **Sell** channel and enhance the corporation's ability to **Buy** through e-procurement systems.

Information logistics:

Information logistics reflect the need for handling the information flow and administrative tasks around the products.

Positional factors:

The positional factors are the foundations upon which an organisation's strategy is based and from which all development emanates. Each positional factor presents complex and intricate issues of its own-a complexity compounded by the need to achieve a balanced, integrated solution overall.

Product logistics:

Product Logistics is concerned with the flow of physical goods along the supply chain.

Value chain integration:

A strong and close alliance in which a company forms a long-term arrangement with one or several key suppliers or distributors for mutual advantage.

Information systems and business strategies

Strategic planning for e-markets

Strategic drivers

Deloitte Consulting is one of the major world consulting companies which advises on business strategy and its implementation. In a recent newsletter, (http://www.dc.com/deloitte_research/featured/transactions/),



it identified six major forces which are changing the business environment today.

1. For many retail products, Internet-based software agents called “shop-bots” will search for products, compare prices, conduct transactions, and arrange for delivery – all on instructions that consumers provide them. The resulting price competition will transfer net benefits from many producers to consumers, yet branding and advertising will still have roles to play in the process. With these “friction-free” developments, in which information is shared by all market participants, significant sectors of the economy will become more like the economics described in textbooks.
2. Certain types of products will move from physical form into digital bits in order to be transported from producer to consumer. These products will adapt their form so they can be delivered over the Internet to reduce costs. Software and publications have already begun this process. The next wave is already occurring in the music industry, a development that will dramatically alter the traditional business models in that sector. At the same time, the line between producer and consumer will blur as producers allow consumers to participate in the process of creating the unique product desired.
3. Internet transactions will alter the traditional form of money, as security and privacy solutions allow for extensive use of digital cash; shop-bots as well as humans will begin to use “electronic” wallets to complete their purchases. To benefit from reduced transaction costs for producers and customers, billing for regular services will be sent and paid over the Internet. Consumers will reduce the time and effort needed to obtain mortgages, insurance, and credit at the same time that producers reduce the costs of providing and servicing these products. Bank ATMs will be even more ubiquitous, because they will be connected to the Internet via wireless terminals. Eventually, banking and other financial services could become dominated by software companies as the difference between money and software disappears.
4. Over the next several years, Internet e-commerce information technology will be dominated by three themes:
 - a. First, CSPs (“commerce service providers”) will replace ISPs (“Internet service providers”) as an increasing number of vendors provide “end-to-end” service that enables customers to establish their version of e-business on the Internet. This vision will span the length of the “transaction chain” from front-end website graphics and shopping carts all the way to back-office inventory and shipping.
 - b. Second, the move to implement priority service pricing protocols on the Internet will introduce resource allocation logic that is economically sound. This logic will differentiate between important economic

transactions and lower-priority entertainment uses of the Internet.

- c. Third, it is likely that new protocols such as XML and XSL will replace HTML as the universal language of e-commerce on the Internet. This is because they successfully separate the real underlying data from the format display description. The reduction in the costs of transactions using these new tools will likely create a tidal wave of support for quick implementation of XML/XSL initiatives. Software vendors, hardware vendors, banks, and bit-transport companies will all battle for turf in all three of these newly created information technology transaction market spaces.
5. The desire for security, “seals of approval,” and privacy will lead to markets for “trust.” This function will address the needs of both buyers and sellers of services in a world where human interaction in the transaction process is reduced. Audit and verification procedures based on Internet platforms will be developed and implemented to meet the requirements of consumers, suppliers, government agencies, and investors. One dimension of privacy issues will become economic in nature; some consumers will essentially “sell” their data to vendors and “infomediaries” in exchange for services or goods, while others who desire more privacy may elect to have a limited participation in that market.
6. As companies and markets seek to use cyberspace to save money, governments will revise the taxation of transactions to deal with the inadequacy of traditional assessment and collection methods. Public agencies will be forced to deal with declining tax revenues that result from company attempts to minimise income taxes and consumer desires to minimise sales taxes. Despite public statements of a “moratorium” on new Internet taxes, the rapid growth of cybertransactions will ultimately drive new government approaches to radically alter existing regulations. Coordination of these changes on a global scale will, no doubt, involve time-consuming politics and diplomatic efforts.

While the Internet offers myriad opportunities, many organisations have suffered by leaping into the maelstrom of e-business without really understanding what they wanted to achieve. The key is to treat e-business strategy as a business decision, not just a technology one, and to recognise that this does not simply require alignment with existing business strategies but the competencies to innovate and create new business strategies. This business decision makes a variety of demands on the organisation and so business leaders must assess their ability to take advantage of those opportunities by evaluating the company’s leadership, governance, knowledge building, and infrastructure capabilities. As a first step it is generally advisable to conduct a competitive industry analysis such as a SWOT analysis. A careful examination of the strengths and weaknesses of the organisation in the electronic marketplace can result in one of the following decisions:



- Not to go for e-commerce
- To go for passive Web-based advertising
- To open online stores in addition to existing stores
- To establish a separate online division within the company
- To dissolve regular business and go for cyber business only

These are not decisions which can be taken lightly or cheaply, and so the business needs to ensure that they have a well developed approach to strategy formulation and evaluation. The business manager also needs to be thoroughly aware of those factors which are generally considered critical for success when establishing an e-business venture.

Critical success factors for e-business

Turban et al (2000) identify the major CSF for e-business as follows:

- Specific products or services traded
- Top management support
- Project team reflecting various functional areas
- Technical infrastructure
- Customer acceptance
- User-friendly Web interface
- Integration with the corporate legacy systems
- Security and control of the e-commerce system
- Competition and market situation
- Pilot project and corporate knowledge
- Promotion and internal communication
- Cost of the e-commerce project
- Level of trust between buyers and sellers

For each of these the organisation needs to prepare a set of questions which can specifically identify the e-business opportunities, costs, benefits and overall positioning in comparison to their competitors. You need to know whether e-commerce is right for your company and what approach the industry and your competitors are taking. Your e-commerce strategy should be able to answer these questions:

1. Why are we doing this? What do we hope to achieve?
2. What is our target audience, and are they likely to be a group that uses the Internet?

The Internet offers its share of opportunities but, as with any new development, there is no substitute for effective strategy and execution. E-business requires a structured approach, and a number of frameworks have been developed to guide businesses in their e-business strategies.

E-business strategy

Robert Plant (2000) suggests seven dimensions of an e-business strategy. These are divided into four positional factors and three bonding factors.

Positional Factors	Bonding Factors
Technology	Leadership
Service	Infrastructure
Brand	Organisational Learning
Market	

Table 3.1: Dimensions of E Business Strategy

Positional factors

The positional factors are the foundations upon which an organisation's strategy is based and from which all development emanates. Each presents complex and intricate issues of its own – a complexity compounded by the need to achieve a balanced, integrated solution overall.

Technology leadership involves the early adoption of an emerging technology to achieve a pre-emptive position. One such opportunity might come from the introduction of mobile technology (m-commerce) to an e-business application where employees are out in the field and distant from regular communications.

Service leadership relates to the customer focus where the organisation has to not only understand who the customers are but also how to give added value to customers. This needs an emphasis on relationship-building and effective creation of online communities, as discussed throughout this course. Service leadership is inextricably linked with branding.

The Internet actually creates or reinforces branding in a way never previously realised.

Amazon.com demonstrated this innovation by branding themselves to their customers as providers of everyday low-cost pricing and good service. They have also gone for a mass-customisation brand. Not all organisations want this form of branding leadership, but many successfully use the Internet to reinforce branding as a complement to existing strategies.

Finally, nimble, creative and agile corporations have achieved disproportionate market growth through the Internet by responding flexibly to changing market conditions and adopting evolutionary strategies which change in line with the stages of e-market growth.



Bonding factors

Organisational learning is a whole way of life applied in an organisation at all levels. Leadership, infrastructure and organisational learning are closely interrelated, as you can see in the microcosm of an e-business champion's responsibilities. This person has to be prepared to:

- keep an open mind to new business technologies
- initiate and lead a perpetual strategy process which will:
 - reflect constant change,
 - require the organisation to react, understand and learn from new e-business opportunities.

Dot-com strategies

Venkatraman (2000) offers a strategic framework which is specifically oriented towards start-ups but which offers a very similar set of factors – vision, governance, resources, infrastructure and alignment – as underpinning for e-business strategic development. He posits five questions for the new dot-com:

1. What is your strategic vision for the dot-com operations?
2. How will you govern the dot-com business?
3. How do you allocate resources for the dot-com business?
4. What is the operating infrastructure of your dot-com business?
5. Is your management team aligned for the dot-com agenda?

Competitive or cooperative strategies

When applying any strategic framework, the organisation has also to determine whether such strategies will be competitively or cooperatively focused. Competitive strategies can fall into one of two categories – **offensive** or **defensive**. Offensive strategies either make a full frontal assault (for example, Barnes and Noble against Amazon.com) or a flanking manoeuvre, attacking the competitor in a position of weakness. An example of this is shown in the case of E*TRADE, who compete in different areas with Ameritrade and My Discount Broker (check out these sites for your own evaluation).

Defensive strategies aim to lower the possibility of a successful attack (Porter, 1980) through raising structural barriers, most commonly by offering lowest costs through increased economies of scale. These are generally found in first-to-e-market operations. Examples are eBay and Dell.

Cooperative strategies are used to gain advantage within an industry by working with other firms, typically in a strategic alliance through joint-venture or value-chain partnerships. Joint ventures frequently take the form of a virtual corporation where a number of businesses come together to combine their strengths and offer a single face to the market. As we noted earlier, even cooperative strategies are likely to possess embedded competitiveness between the players, and it will be difficult to draw the

line between the two approaches. We will try to evaluate this as we progress through the remaining units in this course; you will have lots of opportunities to examine real business examples that both succeeded and failed in their attempts to gain a foothold in the dynamic marketplace. You are now going to look at the first stage of e-business development, that of segmenting markets and putting channel enhancement strategies in place.

Developing sector strategies

Market strategies

Companies generally seek to build competitive strength and barriers to entry on either a global brand or a web of intimate customer/supplier relationships, or both, but always with profound knowledge of the industry in which they operate. Strategies will be very different in different market sectors, and so this whole spectrum needs to be considered from manufacturing to the least inventory-dependent service industry.

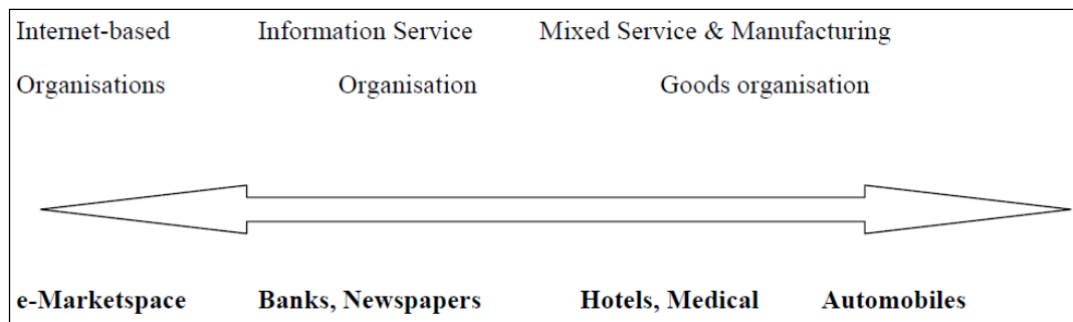


Figure 3.1 Spectrum of e-market

Manufacturing

Traditionally this industry has been characterised by the extensive chain of intermediaries along the distribution chain from manufacturer to customer. This is now undergoing rapid change as manufacturers realise that they can disintermediate and sell direct to customers. Unfortunately, this is not as easy as it seems, since few manufacturers are likely to have the marketing and selling expertise previously supplied by retail outlets. Further, small manufacturers need a broker of some kind to act on their behalf within a much larger marketplace. Different models present themselves to manufacturers. Figure 3.2 summarises how manufacturers of non-fast-moving consumer goods (non-FMCG) in model three and four have applied the supply-demand chain to cut out retailers and sell direct to the consumer. The savings for consumers are clearly significant, and from a manufacturing perspective the increased profit margins will undoubtedly accelerate the process. Clearly, it is not just industry-related manufacturing but also product-related with regard to fast- or slow-



moving goods, low- or high-value goods, regular or one-off purchases, and small- or high-volume sales.

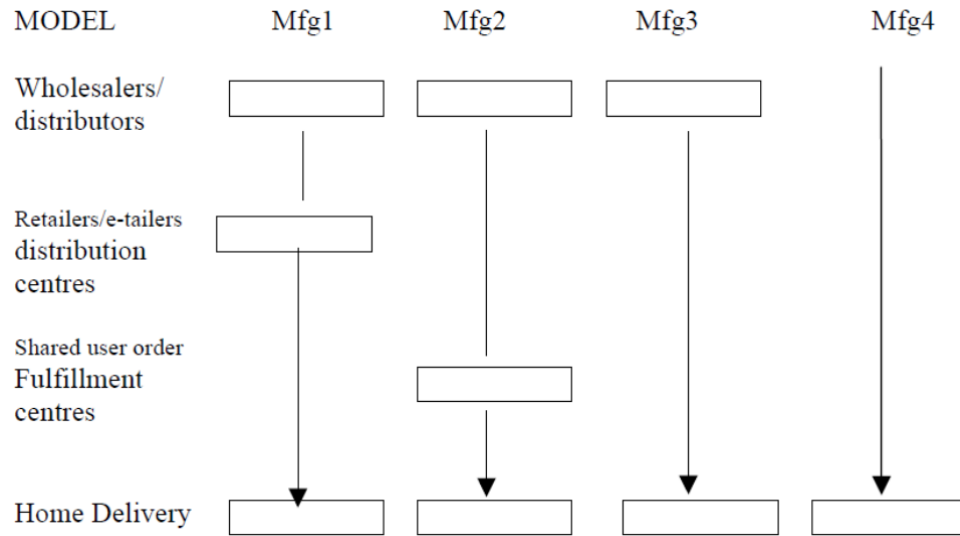


Figure 3.2 Supplier Chain Structure for Non FMCG (Hackney and Burn, 2000)

Mixed goods and service organisations

One step away from the manufacturers are those businesses dealing in the mixed goods and services sector. Supermarkets for example, are occupied with provision of items on the supermarket shelf but also in the provision of added-value services to the customer. Tesco, www.tesco.co.uk, is an excellent example of a successful e-enterprise, and you should take a close look at this site and evaluate what makes it a success.

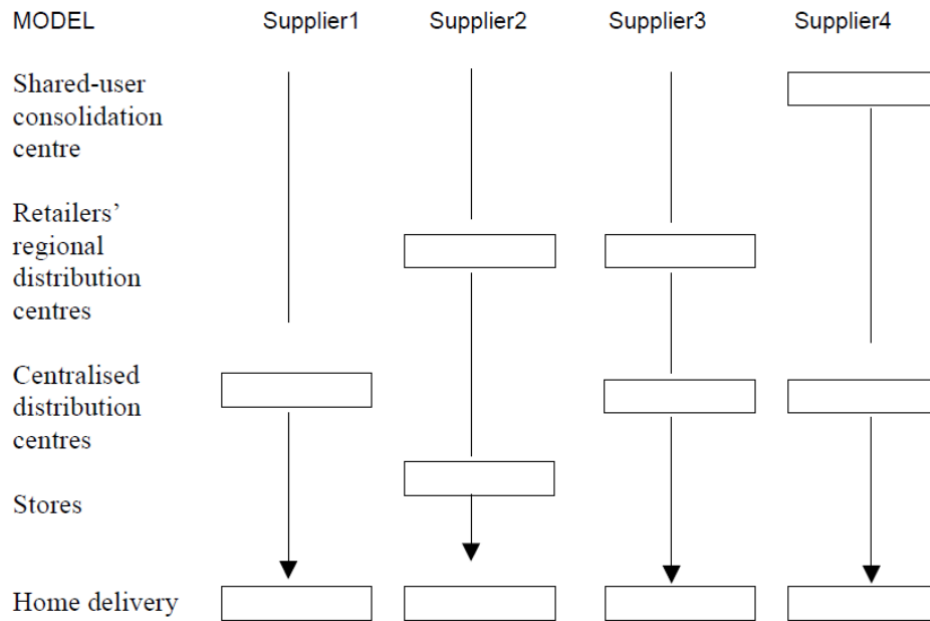


Figure 3.3 Supply Chain Structures for Retailers (Hackney and Burn, 2000)

Figure 3.3 summarises the current and potential supply chain structures for electronic channels in retailing. Model 1 and 2 represent the current structures for e-tailers and model 3 and 4 represent potential structures for IAHS (Interactive Home Shopping Systems). Retailers may offer goods to customers from the manufacturers through regional distribution outlets, centralised distribution outlets, and stores. There is also the very strong possibility, however, that retailers and manufacturers will find themselves increasingly entering into co-opetition in order to survive.

Service organisations

Traditional service organisations have also had to adopt new strategies to maintain leadership positions, as we saw very clearly in the case of CargoNet services in your first module. We will also review this again in the case study of *South China Morning Post* at the end of this module.

For most service industries, the customer can now attain access directly over the Internet 24 hours per day. Perhaps, the best known examples have been seen in the brokerage industry and financial services industries. It is important to recognise that most of these offer low switching costs for customers and it may well be difficult to build brand loyalty. This was the problem that faced Charles Schwab Inc. in 2000 when intense competition forced downward margins in the investment e-market trading-place.

The strategy you use to position yourself in the marketplace will reflect the industry in which you operate, the type of product you deliver and the customer you service. It will also reflect the stage of growth of e-business development in your organisation. Typically the first step for an organisation will be to use e-business technology as an enabler to modify existing processes and to create new ones targeted at improving business performance. This strategy of Channel Enhancement to improve marketing, selling or buying of products and services over the Internet will be reviewed in the next section.

Using systems for competitive advantages

Channel enhancement strategies

In the e-business world, channel enhancement means using Internet technologies to enhance sales or client services, by adding an electronic **Sell** channel and enhancing the corporation's ability to **Buy** through e-procurement systems. In other words, they will be starting to implement B2C and B2B systems (perhaps not both simultaneously). Typically companies will be choosing to implement a new business model with the emphasis on incremental change, cost efficiencies and process re-orientation. At this stage, back-end integration with front-end processing is critical.

Sell channels

There are probably three convincing reasons to justify the expenditure (possibly more than USD 10 million) to establish an electronic sell-channel:



- Enhancing the sell channel through technology will lower costs
- An e-commerce sell channel has become a “must” in most industries and is the price to be paid to enter into the competitive world of 21st century business
- An enabled sell channel allows for much more efficient collection and aggregation of customer information. (Remember the emphasis in Module Two on the value of this in establishing e-communities.)

There are seven components of an enabled sell site:

1. **Catalogue:** e-catalogues typically provide more information than paper catalogues; they can include links to photographs, product or engineering specifications, demonstrations and videos. There are many software packages to choose from, and it is important to match the catalogue design and functionality to the company’s goals.
2. **Merchandising,** sales promotion and affinity programmes such as frequent-flyer offers, with additional promotions such as electronic coupons distributed via e-mail, are becoming increasingly common.
3. **Configuration:** this is used for more complex products. It means allowing users to define a product that meets given criteria or needs and whose features and options can be combined to work together. The site may allow buyers to calculate price and choose the best payment option (leasing or buying/repairing).
4. **Shopping cart:** Pioneered by Open Market, this feature allows the shopper to maintain multiple items before deciding to buy. The software can also remember buyers’ selections between sessions (known as a persistent shopping cart).
5. **Tax calculation:** particularly relevant to U.S. sites, where these software packages calculate Local, State or Federal taxes.
6. **Shipping/Logistics:** not only determines shipping means and costs but can also keep track of logistics and interact with the buyer regarding the current whereabouts of the order.
7. **Payment systems:** this is mostly by credit card with secure electronic transaction (SET) processing. Chase Paymentech is one vendor in this market. Suggested online payment systems can be reviewed at <http://sixrevisions.com/tools/online-payment-systems/>.

Buy channels

The three value propositions for moving to e-procurement are: employee compliance with pre-negotiated contracts, improved leverage with suppliers and process improvements. Indirect procurement systems are similar to consumer purchasing because in most large organisations, individuals are allowed to make buying decisions for many, if not all, indirect items – everything from stationery to computers and office furniture.

There are 12 processes involved in this cycle:

1. Identify a need for a particular product or service
2. Sign on to an e-procurement application which will include a user profile
3. Access authorised buying catalogues (with associated buying rules)
4. Select an item and create a requisition
5. Approve the requisition (against known rules through browser interface)
6. Create a purchase order by using the ERP system or similar interface. This may allow combining of POs in an employee or department account
7. Transmit the PO electronically
8. Vendor receives the PO and automatically records
9. Query requisition status through real-time links
10. Goods shipped
11. Receive invoice – this may have been automatically generated at step 9
12. Pay invoice through EFT

Obviously, there are huge cost savings to be made by automating all these processes. For any global 500 corporation the payback should happen in less than six months (Deise et al, 2000). It was estimated that by 2002, most of the global 500 had installed such systems at a total cost of about USD 5 billion and at an annual saving of USD 7.5 billion. These savings come through compliance, reduced costs and process efficiencies. In addition to e-procurement, other forms of electronic purchasing include:

- e-Sourcing
- e-Auctions

These are not described in any detail in this course (if you are interested, you may want to pursue this through an elective e-commerce study). It is important to note however, that the seller and buyer are always in adversarial positions – each wants to hold the knowledge on its side of the firewall and make informed choices about their decisions. These relationships will be explored in depth again, where you look at the points along the value chain where decisions are made.

Organisational impacts

E-business is a disruptive technology and has serious implications for the way that organisations manage their day-to-day operations and also for their staff and the overall organisational business model. At this stage of e-business, the greatest change impact is on business processes.



There is a need to re-engineer such processes as:

- Marketing – a strategy is needed to lure customers to the site and consolidate a purchase
- Sales and Order Management – the emphasis will shift to real time updating of prices and product specifications
- Customer Service – this is likely to be through e-mail and must be managed effectively and promptly
- Procurement – leads to reduced requisition times but also to less inventory

All of these changes will affect employees and require a redefinition of roles. There may also be a need to engineer new processes and job descriptions.

New Information Systems will be required, and these will have to be managed for content – not just across the organisation but also for IOS. The systems will have to be integrated with back-end processes, and this integration between new and legacy systems can be fraught with difficulties. As the number of systems requiring integration increases, so does the risk of data integrity problems. For many organisations, this becomes the critical issue. Understandably it is a significant factor for ERP suppliers, who must ensure compatibility with myriad platforms.

The organisation must first establish the new business model and then sell this to their employees, ensuring that organisational change is also accompanied by behavioural change. There is likely to be some resistance to such change, and the organisation must review different incentive and reward schemes while also investing in training and re-education. Creating a new interactive information-based organisation is not an easy task.

Value chain integration

There are four stage models for leveraging e-business. The second stage of this model is Value Chain Integration – a strong and close alliance in which a company forms a long-term arrangement with one or several key suppliers or distributors for mutual advantage. In the past, the introduction of computing into organisations has largely been on the justification and acquisition of individual information systems. The degree of attention paid to systems introduced was justified by the expected dollar value of each particular acquisition with little attention to the cumulative effect of these acquisitions on the overall business capability. The result of this has been the painful lesson that a focus on individual information activities, within individual business units, will not necessarily result in an advantageous position. To improve competitiveness, many companies have adopted a “value chain” or “supply chain” viewpoint.

Although often used loosely and interchangeably, these terms can have distinct although related meanings within an organisation. As planners we may find it to our advantage to consider them separately wherever possible in order to gain the maximum use from these concepts.

Supply Chain Analysis involves working across multiple enterprises or companies (Inter-enterprise) to shorten the supply chain time in the delivery of goods and services to the consumer or customer. The demand uncertainty in supply chains can be addressed by faster response times.

A basic product supply chain can afford longer lead times and batch manufacturing of large lot sizes to meet the demand. A supply chain that produces fashion, electronic or mass customisation products must respond quickly and be more agile. Most supply chains are moving in the direction of supporting more rapid changing of demand by the consumer or customer. The e-business supply chain will comprise five components:

1. Supply chain replenishment
2. Collaborative planning
3. Collaborative product development
4. E-procurement
5. E-logistics

Value Chain Analysis is used to identify a variety of potential sources of economic advantage.

The analysis looks at a firm's major activities as steps or transformative stages at each of which the goods gain value. The added value may take the form of a complex operation upon the goods or simply moving them from one place to another. This analysis is done in order to understand the behaviour of costs and the existing and potential sources of differentiation from others in the market. It determines how the firm's own value chain interacts with the value chains of suppliers, customers and competitors. Companies seek to gain competitive advantage from such analysis by finding out how to do some or all of these activities at lower cost, or with greater differentiation, than competitors'.

What these two terms have in common is that each business activity – upstream to exterior suppliers, internal to the company, and downstream to the end customer – are examined in the context of an overall value chain to reduce costs and improve responsiveness to the customer.

Customer focus – the delivery end of the value chain – is the correct starting point for both supply-chain and value-chain analysis.

Applying the supply chain management approach

Supply chain management, also known as Supplier-Retailer Collaboration (SRC) or Efficient Consumer Response (ECR), is an idea that has gained considerable attention. In the U.S., supply chain management projects are often allied with efforts to create so-called “virtual corporations,” that is, a more opportunistic approach to collaboration. The early efforts in this area involved the implementation of proprietary Electronic Data Interchange (EDI) projects for large firms and industries. Early initiatives you can find in the literature include



Volvo's and Saab's adaptation of ODETTE, a standard developed for the European automobile industry. More recently the Ford and General Motors Web portals demonstrate the changes that have been wrought in this area by the integration of Web-based systems with EDI.

Generally, supply chain management can be described as a concept aimed at reducing costs involved in getting goods from their origin to the consumer along the often complex path taken as they move from place to place and handler to handler in the supply chain. The mechanisms to achieve these goals can be divided into two categories: operations management and marketing.

Within these two main categories, it is useful to identify six basic patterns of collaboration. In this module, we will focus on operations management, since information technology plays a more significant role here. We will return to the marketing aspects when we look at global branding strategies in Module 6.

The logistics paths

When considering supply chain management from a logistics perspective, you will find two areas that have a considerable impact on the efficiency and effectiveness of the operations being performed: product logistics and information logistics. While product logistics is concerned with the flow of physical goods along the supply chain, information logistics reflect the need for handling the information flow and administrative tasks around the products. Within each of these dimensions, we can identify the following areas for improvement: operating standards and replenishment.

Common operating standards enable the retailer's regional distribution centres or stores to be optimised. When a regional distribution concept is used, this strategy normally does not include the exchange of information regarding the flow from the retailer's regional distribution centres to the stores, nor analytical EPoS-data (Electronic Point of Sales). However, there is still a significant potential for improvement: for example, delivery planning, advanced shipping notes, cross-docking, and the use of bar codes on pallets.

Efficient replenishment strategies build on EPoS-data being transferred to the supplier, who takes responsibility for deliveries within agreed stock levels. If a direct-store-delivery system is in operation, EPoS sales data are regularly included in the data transfer from customer to supplier. Otherwise, the data flow is normally restricted to contain the aggregate levels from the customer's regional warehouses. This concept contains a potential risk for increasing the supplier's costs when the underlying supply chain management strategies are not reconsidered.

Since retailers generally aim at minimising their warehouse costs, they tend to increase the frequency of orders while reducing their volume, thus striving for a "just-in-time" delivery concept. The effect of this change is to transfer costs to the supplier and, most likely, increase total cost volume within the supply chain. A way of reducing the negative impact on suppliers is to provide them with sales data and forecasts on either PoS or RDC level, thus allowing more accurate production and logistics planning.

Beyond the improvement of physical logistics, the flow of information between the parts involved in collaboration, and the handling of administrative issues, play an important role for succeeding with SRC-efforts. Reducing non value-added activities by using information technology will result in cost reduction, improved data accuracy, and less paperwork.

Driving supply chain management

In its current state, most of the impetus for supply chain economics is coming from the retail side, where cost reduction is achievable. While there may be a difference between economies which focus primarily on increased gross margins and those which target cost reductions, the resulting strategy of supply chain management is similar.

Another reason, beside the directly financial, is awareness of the changing demands of final consumers and the ability to harness them. The emerging concentration of power in a small group of retail organisations, for example in the retail grocery trade across Europe, allows the retailers to exert pressure on the suppliers and along the entire chain of supply.

Knowledge exchange and enabling technology

The exchange of knowledge and information between the partners participating in the improvement of a supply chain is a precondition for success. Depending on the chosen collaborative level, this may include the free access to analytical sales data, sales forecasts and internal logistics figures, but even more qualitative information regarding purchasing behaviour, consumer requirements and changing demands. This information flow improves the planning ability throughout the entire supply chain, and allows fast responses to changes in environmental dynamics and variations in demand. And what makes the information flow? Obviously, technology in its various forms. IT is the enabling factor for the successful implementation of improved supply chains in operations, since it makes possible the inexpensive, frequent and extensive exchange of information between the parties involved. For this reason, proprietary EDI first justified its cost – among large corporations this is one of the most common tools employed to allow information exchange at the required pace and intensity. Several studies, conducted in many different industries, have shown that the electronic exchange of primarily quantitative data (but even qualitative information) works very effectively if the necessary preconditions are satisfied.

The ability of retailers and suppliers to integrate effectively within improved supply chains requires two basic elements – Electronic Point of Sales (EPOS) data, and (EDI). What follows is a brief discussion of how these integrate.

The data scanned at the retailer's points of sale can be used for managing the physical flow from the retailer's regional distribution centres to the stores and to improve the retailer's warehousing at regional and store level. In this case, the data need not necessarily be transferred to the supplier but can be used to develop sales forecasts that enable the



supplier to better plan its own operations. When a direct-store-delivery system is in place, the data can even be used to improve the planning of deliveries to the retailer's stores. When sales forecasts are compiled and orders placed upon the basis of gathered data from PoS, we talk about Computer Assisted Ordering (though the existing ordering procedures are not necessarily replaced by EDI).

Used in conjunction with point of sale data, the electronic transferral of orders can significantly reduce the time, work, and costs required for order handling for both supplier and buyer. The results include reduced individual and total chain costs and improvements in lead time.

It appears clearly that replenishment strategies have a higher potential benefit for the retailer than for the supplier. In order to leverage the obtainable benefits among the SRC partners, the implementation of replenishment strategies has to be aligned with other strategies. The simultaneous implementation of joint operating standards and efficient administration strategies, where the benefits are more leveraged, can significantly increase the suppliers' will to join an efficient replenishment initiative. This problem is clearly depicted in the following table, which describes the main reasons for firms to undertake efficient replenishment efforts. While suppliers expect primarily cost reduction, retailers conceive better service from suppliers as their most important expectation. However, without being embedded in an overall collaboration, these two expectations exclude each other.

SUPPLIERS	RETAILERS
Cost reduction	Better service from suppliers
Better service to retailers	Cost reduction
Better information flow	Better information flow

Table 3.2 Expected benefits from supply chain efficiency

Another strategy for balancing the benefits throughout the entire supply chain would be to further integrate the supplier's value chain with its own suppliers, thus ultimately making the entire industry value system a single value-added chain.

Some examples of change

The importance of supply chain management is such that many companies today are adding to the already extensive capabilities of their enterprise resource planning systems with collaborative applications that let them share data over the Internet. And a handful of companies in the automotive, electronics, and biotechnology industries have undertaken an even more ambitious project: to build private portals that link buyers and suppliers, providing a platform to exchange information about products, inventory, capacity, shipment, and payment. IBM Microelectronics, a division of IBM, began to reshape its supply-chain management system back in 1995. The division wanted to move from supplying semiconductors and packaged goods exclusively to divisions of IBM, to

supplying parts to outside buyers such as Advanced Micro Devices, Cisco Systems, Dell Computer, and Qualcomm.

The company replaced the system it had built with SAP's manufacturing resource planning software to gather and store data, capture and store orders, and track current inventory. The IBM division also began to transmit information to customers over the Internet, including purchase orders, ship dates, logistics, and payment information. The idea was to extend and improve communications along the supply chain by making use of the Internet as a means of communicating requirements and sending status information back out. This created immediate benefits in reduced transaction processing, enhanced reliability, and improved customer responsiveness.

The demand for improvements such as this has generated new software that can help companies defray the costs associated with finding and buying products and services. Chemical company DuPont & Co. is deploying Web procurement software to give its 95,000 employees a single interface and consistent business rules to buy products such as office supplies, test tubes, and service contracts. The use of a common system is intended to simplify purchasing while leveraging buying power for better deals.

Similarly, catalog software from Perfect Commerce helps companies source the raw materials and finished products used in the production of their goods more efficiently; the software archives and searches large databases of product information from multiple vendors, significantly reducing search times.

According to analysts, while ERP systems have long helped companies manage their internal manufacturing, financial, and human-resources processes, they weren't designed to encompass all stages of the supply-chain management process, from planning to selling, sourcing to delivering. For manufacturers to streamline production, they need a higher degree of collaboration and transparency than an ERP vendor can provide in a traditional packaged solution.

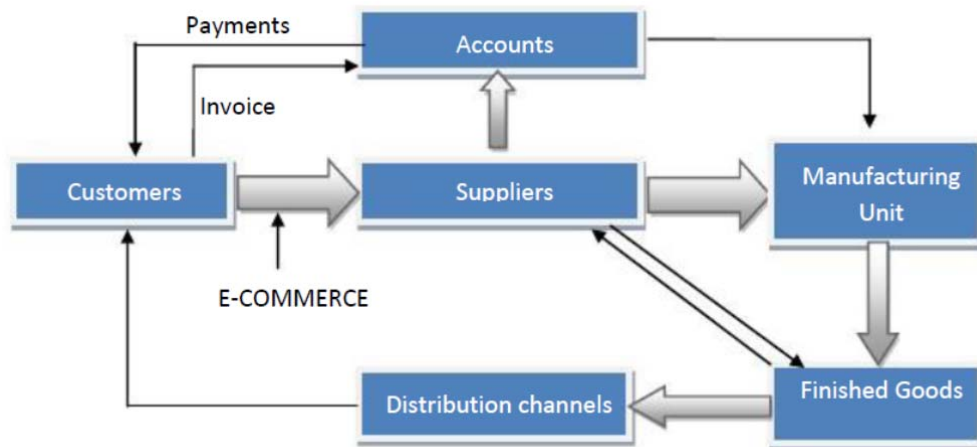


Figure 3.4 Enterprise Resource Planning System (ERP) of an organisation



While ERP systems still form the backbone of many enterprise-wide IT systems, a number of other software vendors – along with large services organisations such as Deloitte Consulting, Ernst & Young, IBM, and USWeb/CKS – have built capabilities for companies that wish to share information. JDA Software Group and Perfect Commerce each make advanced planning system software that helps companies do forecasting and capacity-planning for their manufacturing activities. Because their software runs over the Internet, the vendors have found themselves in a good position to bridge the gap among various ERP systems.

Originally written to automate processes on the factory floor, advanced planning software from JDA now optimises production activities by letting companies more easily communicate their production needs to suppliers, keep buyers abreast of production cycles, and respond quickly to changes in supply and demand. The software works by pulling order data out of, and feeding it back into, any number of ERP systems. Because the applications are browser-based, no software needs to be deployed in order that suppliers, transportation partners, the distribution channel, resellers, and large business clients can all see into the supply chain.

But the ERP vendors aren't doing anything. Strategic competition from SAP APO and Oracle saw the disappearance during the mid-2000s of prominent software application companies in resource planning and supply chain management: i2Technologies and Manugistics Group, Inc. Given the nature of today's economy, vendors of traditional supply-chain management software must remain wary of nimble upstarts, especially when trying to reach small and midsize companies. Websites such as MetraTech and TheSupplyChain.com target certain functions of supply-chain management software – such as logistics, order management, purchasing, or fulfilment – and offer them on a subscription basis to companies on the Web.

The Internet has changed how companies manage their supply chains in other ways as well. Using their foundations in Web-based software from Ariba, Perfect Commerce, and JDA Software Group, Inc., companies continue to explore the use of trading hubs – online marketplaces such as Altra Energy Systems and e-Steel that let businesses buy commodity goods such as bulk chemicals, metals, and power more efficiently.

Daimler, Chrysler, Ford and General Motors have portals to help connect them to suppliers, original equipment manufacturers, and resellers on the Web. The companies have joined forces to build an automotive marketplace that will use open Internet protocols and the Extensible Markup Language (XML) to help the participants exchange information on orders, inventory, demand, and payment with tens of thousands of trading partners. The benefits include more accurate planning, easier data exchange – especially with small suppliers not equipped with electronic data interchange – and faster response times to customer needs.

When it comes to how companies find, buy, make, and move goods and products, the world has changed. Analysts predict the way companies manage their supply chains will continue to morph with each technological advancement and new Internet business model, and according to rules unique to each industry. What won't change is the fact

that supply-chain management is an increasingly critical element of running a successful business – online or off.

E-business and chain effects

Supply chain management (SCM)

SCM, as discussed above, aims to improve coordination and competitiveness beyond the enterprise level to include relationships between companies. We can identify supply chains in virtually every industry linking the procurement processes, transformation of raw materials into finished products, and delivery of the product to customers through a distribution system. The supply chain of a packaged consumer goods manufacturer, for instance, comprises manufacturing, packaging, distribution, warehousing and retailing. Managing this involves the coordination of the inventory and production capacity availability across several organisations to produce products that can satisfy forecasted demand in an environment with a high level of uncertainty. While derived from and mainly studied in the manufacturing context, SCM can equally well apply in any other service industry and may specifically relate to the management of information rather than materials.

Recently SCM has become a “hot” topic for a number of different reasons. These include the trend towards multi-site operations with independent entities involved in the production and delivery process, new and increasingly competitive marketing channels, and the electronic marketplace. The extension of extranets to efficiently enable instant communication of activity along the chains at low cost is having far-reaching effects.

Traditional supply chains and trading relationships are exploding into intricate and dynamic virtual networks of trading partners and service providers. The emphasis in these relationships is to derive significant value through increased revenues and decreased costs as shown in Table 3.3 below.



Networked Processes	Value
Design and product management	Competitive advantage through faster time-to-market Reduced R and D expenses Lower unit costs
Order management, planning, forecasting and replenishment	Competitive advantage and higher revenues from reduced stock outs Lower costs through reduced inventory Lower costs through reduced return rates
Distribution	Lower costs through optimised shipping and fulfillment
Sourcing	Competitive advantage and increased revenue through faster product introductions Decreased costs through and increased revenue from higher quality
Customer relationship management	Increased revenue through improved customer segmenting and targeting Increased revenue through improved customer service Decreased costs from efficient sales force automation
Merchandising / Category management	Competitive advantage and increased revenue through the proper product assortment, pricing and promotional strategies, and shelf placement

Table 3.3 Value from e-Business Processes along the Supply Chain

Making this work directly depends on the performance of all the others in the network and their willingness and ability to coordinate. The question facing most organisations today is not if they should join these new electronic networks, but how. An organisation today must consider the effect of Internet-enabled commerce on their distribution channels as well as the value chain.

Demand chains

Traditionally, suppliers reengineered only their end of the supply chain by reducing obsolete inventory and cutting down cost and time of goods to market. However, a much more powerful concept lies in the demand chain where, for example, a retailer's demand chain would consist of assortment planning (deciding what to stock), inventory management (deciding the quantity of supplies needed) and the actual purchase. Together with SCM we have the demand-supply chain and these are linked and managed in two places: the order penetration point (OPP) and the value offering point (VOP).

The OPP is the place in the supply chain where the supplier allocates the goods ordered by the customer. Goods might be produced after orders come in (make-to-order) or allocated from a warehouse once the orders

have been received (package-to-order) or from distribution (ship-to-order). Each order penetration point has different costs and benefits for the supplier and its customer; for example, rapid delivery (a benefit for the customer) depends on holding a large inventory (a cost for the supplier).

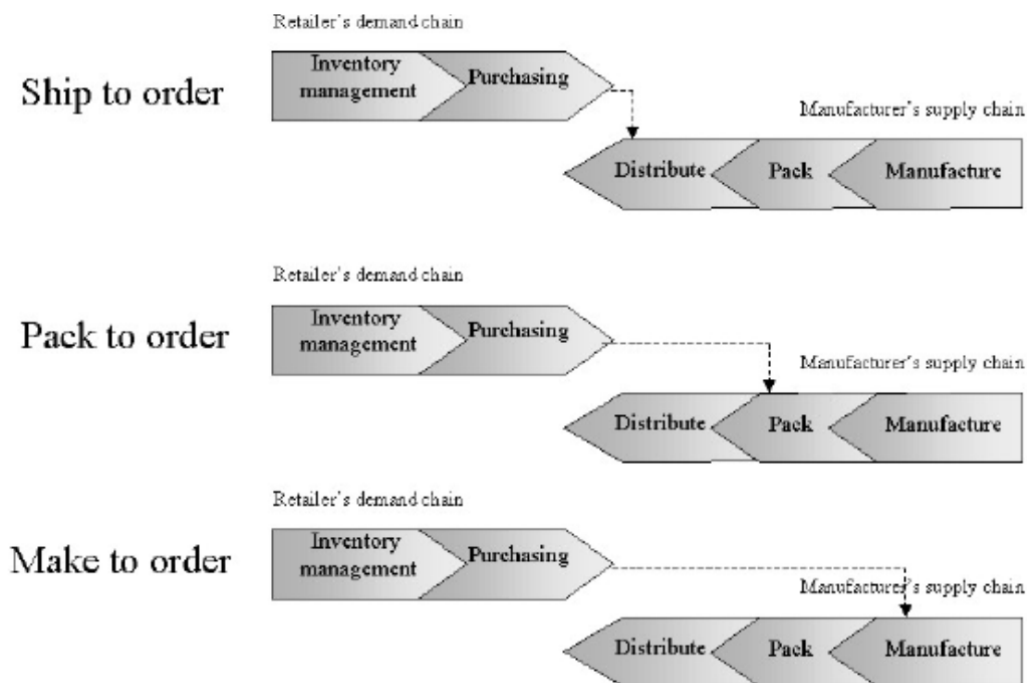


Figure 3.5 The OPPs (adapted from Holstrom et al, 2000)

The farther back in the supply chain the supplier moves the OPP, the more steps there are to complete without disruption and the more difficult it becomes to fulfil orders promptly. The advantage to the supplier of this approach depends on the amount of cost savings affected by lower inventory, on the one hand, compared with the reduction in sales that may be brought about by longer delivery times and higher total costs for customers, on the other. Customers and suppliers never benefit equally. The value-offering point (VOP) – the second place where the demand and supply chains meet – is where the supplier fulfils demand in the customer's demand chain. Moving the VOP back in the demand chain largely benefits the customer, requiring more work from the supplier.

There are three principal VOPs. In the conventional buyer-seller relationship, the VOP is the purchasing department, which accepts an “offer to purchasing” by choosing the supplier and deciding when goods are needed. An “offer to inventory management” moves the VOP further back in the demand chain: by carefully monitoring the customer's inventory levels, a supplier can cut down on stock that is unlikely to sell and ensure that the customer never runs out of fast-moving goods. An “offer to planning” moves the VOP back to merchandising or production. As the VOP is moved back, there is more work for suppliers and greater benefits for retailers (or even end users).

The fourth VOP is the “offer to end user,” such as Dell Computers’ direct-sales model for business clients. Rather than fulfil orders from wholesalers (an offer to purchasing), Dell went all the way back in the demand chain to the end consumer by fulfilling orders for customised PCs – complete with software and network configuration.

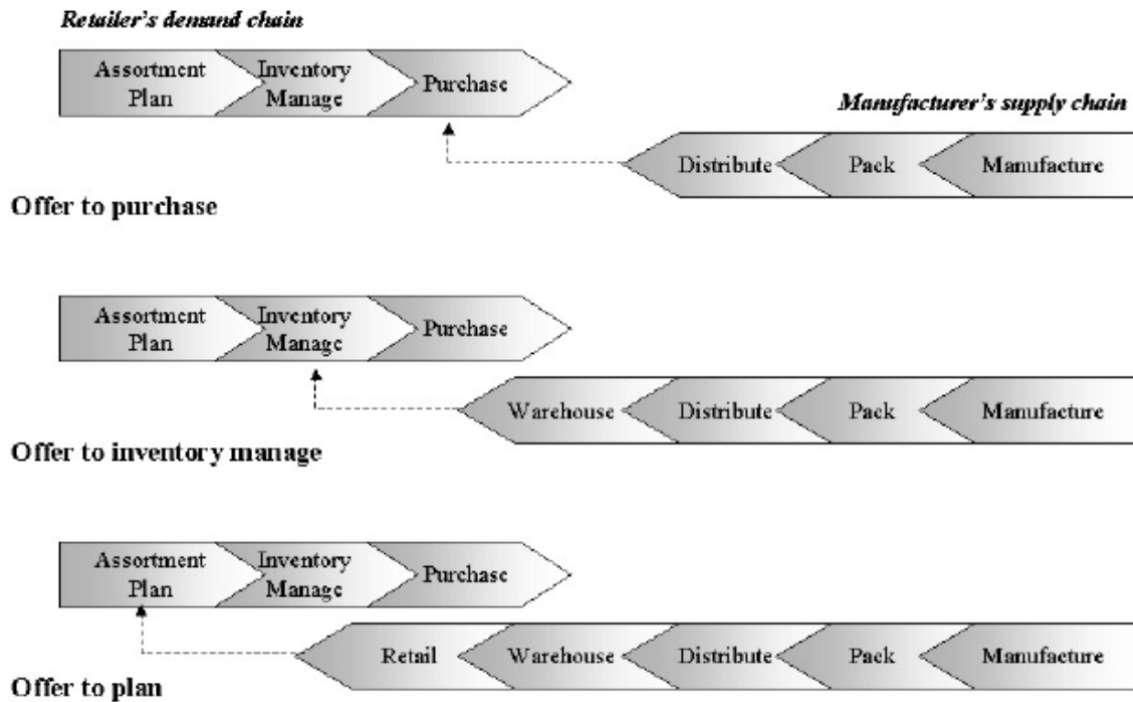


Figure 3.6 The VOPs (after Holstrom et al, 2000)

By coordinating changes in both the supply and demand chains, a supplier can raise its customers’ efficiency, as well as its own: Simultaneous movements of the OPP and VOP will be of mutual benefit to customer and supplier. Effectively, this can result in the development of a virtual value chain.

Virtual value chains

An e-business must then consider the following questions:

1. Can we increase the number of electronic connections, simplify interorganisational processes and at the same time discover ways to shrink, speed up, or virtualise the value chain?
2. What is likely to happen with our wholesalers, distributors, or retailers? Are they going to be disintermediated or are they likely to survive by transforming their businesses into new types of intermediaries operating in a neutral market?

One obvious scenario is that the old value chain gets smaller and so more efficient as you bypass some of the steps in the supply chain (for example as currently happens with the on-line delivery of software and other

products that can be digitised). In some cases as one cuts out previous links in the supply chain, new intermediaries will arise (for example selling may move to an industry-wide portal or vortal to reach a larger market). This dynamic reconstruction of intermediaries can also lead to dynamic allocation of intermediaries where the channels become invisible, so creating the virtual value chain.

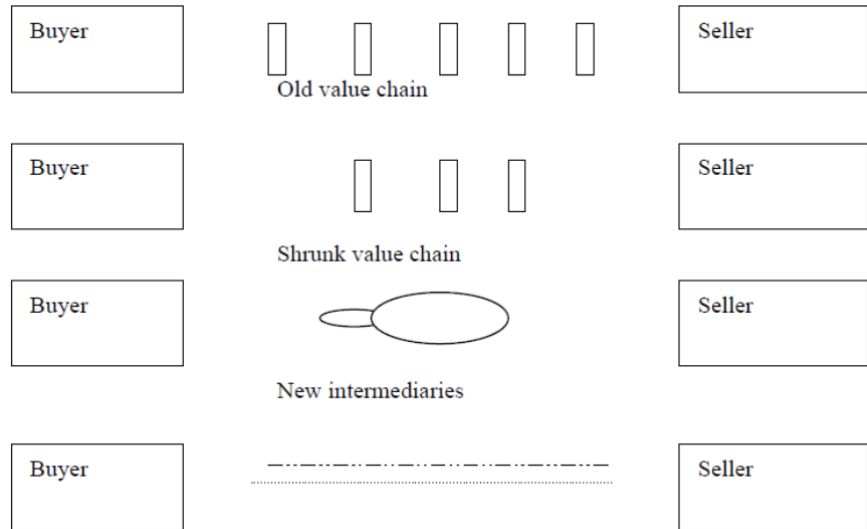


Figure 3.7 The Evolving Virtual Value Chain

The value chain of the firm does not exist in isolation but exists as part of an industry value system and the whole value system will consist of the value chains of suppliers, customers and competitors. This can become the model for the virtual organisation as it links electronically into value networks.

The e-business planning process

Strategic options

Though the potential of the Internet and websites have yet to be fully understood, any business contemplating an extension of activities into cyberspace would benefit from taking a look at the large number of websites already in existence and noting their contribution to business strategy development. We have already introduced the notions of supply and value chain analysis and the potential for redesign, but we should set these aside for the moment as these may not be apparent from an examination of Web and Internet presence to the outsider. What will be visible, however, provides an insight into the approach currently taken and the level of commitment to integrating it as a part of long-term business strategy.

Our first analysis of e-business strategy implementation will be to examine the structure of a company's site to illuminate the strategic



vision at work, perhaps seeking examples to emulate or avoid. Currently there are no universally accepted categories of websites, nor rules for the business outcomes they are designed to promote, nor any definition of the content likely to achieve their aims. But we can begin by broadly dividing corporate sites into three categories: those with an organisation focus, an audience focus, and a business or trading focus.

Organisationally focused sites

This type of site tends to have as its core content the information that the company wants to impart to the visitor about the company and its workings, rather than responding to requests for information. On sites of this nature we see, much as in an annual report or similar shareholder or stock market information, an account of how the business is structured, the financial performance, and details of the management structure and lines of authority. Often the first sites to be developed for larger companies, these are frequently referred to as “brochureware,” a term not always meant flatteringly.

These sites arise from the perception of the Web as a medium for extending traditional marketing activities. Public relations or corporate communications staff were often the first to control Web content, seeing the potential for global reach and versatile presentation of materials economically. Initially, this approach yields brochures, product descriptions, press releases, case studies and so on. Unfortunately, sites of this type frequently give little consideration to what the reader wants and insufficient sensitivity to the many different audiences that a large company has.

All too often this approach results in a boring site which did little to extend or build upon material already available in printed form.

Characterising such sites are the following features:

- An overemphasis on the organisation structure, divisional details and technical or internally used terminology
- Categorisation and description of company wares that are appropriate to the company, not necessarily presented in a way most accessible to consumers or trade partners
- A focus upon senior management – perhaps with “A letter from our Chairman” and pictures more likely to be of company buildings and assets rather than product
- Concentration upon headquarters activities (in the case of multinationals) with a pronounced linguistic, cultural, or business stress upon domestic (home-based) operations
- Emphasis upon information provided by, or favourable to, the host company
- Little indication of being tailored for a specific audience or set of audiences

What do the above tell us about an organisation’s strategy for using the Internet? They suggest that the site is seen as a tactical rather than a strategic move. As a jump onto the learning curve, these sites have a function, and perhaps later on much of what they do will be incorporated

within a larger, more sophisticated site. But a site that greets the visitor with “All about us” and “What we do” is obviously more interested in itself than in responding to the viewer’s reasons for visiting the site.

Audience focus

By way of contrast, the site we categorise as audience-focussed is designed to accept and capitalise on the fact that many different viewers arrive at a site for different reasons. These sites reflect this awareness with the varied format employed and language used. Having said this, there has emerged no obvious single way to achieve the desired ends. It is instructive in this context to look at competitors from a single industry — for example, the approaches taken by Visa, Mastercard and American Express.

Characterising what we mean by an audience focus, the following elements are predominant on these sites:

- Distinction is made between the various audiences who may use the site, with different navigation paths obvious or the requirement for information to be given to use the site
- Greater value is delivered by skilful use of the Web technology than could be delivered by traditional means
- The site may be customised to match visitor demands or needs

When we observe the above features, we are observing a company that is moving beyond the tactical deployment of Web tools toward integrating them with long-term strategy and corporate policy.

Business focus

This is normally an extension of the audience focus approach above. In addition to the previously described features, this site uses the site for measurable benefits – perhaps to create a clear product identity, to foster consumer loyalty, to reduce product marketing or support costs and so on.

A business-focussed site appreciates that a Web presence can directly affect business performance, often accepting that there is a potential for enormous change in the way that business is carried out and the relationship between all parties. While there are no hard and fast lines separating sites in this category from the above, we would look for and expect to find the following characteristics:

- A sophisticated use of Web tools.
- Private, restricted or pay-for use sections of the site for special groups of visitors. A bank or credit card site may allow visitors to balance cheque accounts or do other financial transactions and so on. A software site may have support facilities for registered users, and so on.
- The reduction in operational costs achieved by the organisation is passed on to the user in one form or another: price discounts, loyalty schemes, faster access, cross-selling deals, and so on.
- Products and/or services that are only available through the Web.



- Strong support for group and corporate identity with value being delivered from the site independent from any tangible product.

Staged growth

The e-business planning process will reflect an evolutionary approach to e-business strategy, typically encompassing the stages of website development shown in Table 3.4. This model will also relate to the business model adopted by the organisation and the focus of the planning strategy. We show an extended version of this in the Table below.

Model	Strategy	Stage	Web site
Online organisation	Customer service personalisation and marketing	Presentation	Static or Mail Order web site – brochureware and advertising, online orders
+ Partners	Cost reduction and speed of processing	Communication	Tailored to trading partner- View inventory/orders in hand
Through an e-market	Efficient pricing and expanded product lines	Interaction	Customer/Supplier order placement/mall/ auction bids
+ Alliances along the value chain	Core business concentration	Fulfilment	Links to back-end fulfillment systems
Extended to other Market Alliances	Expansion of products/services/ business	Collaboration	Dynamic interaction
Virtual community	Diffusion of niche markets	Collaboration and Competition	Virtual decision making and Diffused Control

Table 3.4 Examples of Structures for Staged Strategies

It is essential to understand and incorporate the processes and business requirements of customers and suppliers and to build a foundation of trust. It is also essential to apply “outside-the-box” thinking to capture information from sources of innovation and create the opportunity to share information in non-competitive situations.

Module Summary



Summary

In this module you have reviewed a number of different frameworks for use in the development of strategic plans. Strategy is seen as a competitive game but one where both competition and cooperation have a place in the intricate Web-based networks of extended business alliances. These frameworks are basically tools to create road maps. The business will decide which route to take by tapping its managerial experience and understanding of the industry marketplace and the new opportunities and risks they face.

A number of tools can give guidance that minimises (though not eliminates) risks: portfolio management and simple rules are examples. The organisation must derive a strategy to position itself in the e-marketspace and also determine the likelihood of success. At the initial stages of e-business, emphasis will be on strategies to enhance both sell and buy channels and to gain a market leadership position. This emphasis will have considerable organisational implications which must be recognised and managed effectively.

This module also reviewed the evolution of Strategic Information Systems Planning (SISP) and then explored why there is a need to adopt a new model for SISP which encompasses IUS and networked organisations. Within these networked organisations, you must realise, there will be many different stages of growth in development of e-business and so it is essential that we allow for multiple views in the model. You have begun to see how all the elements of systems organisation and management link together as all aspects of business link together. Next the focus of this module moved to the area of planning specifically for e-business. We invoked what you know of value chains, supply chains, and demand chains to open your eyes to the idea that planning for e-business is different from planning for traditional business. A major reason for this difference is the fact that transaction costs in e-business can be reduced to insignificant amounts with the right planning, tools, and managerial strategies.

Value, Supply and Demand chain analysis are methodologies which have been applied to IT strategies for the last two decades, but these tend to imply linear relationships. Used in a comprehensive framework, they can effectively model the value network of a complex e-business environment. As organisations form and reform these value-network alliances, they also have to develop capabilities to cope with strategic, technical, cultural and operational change. Logistics, manufacturing and customer interfacing functions will become prime areas for outsourcing or incorporation into the virtual value chain and the ability to form and manage these is of critical importance. Continual re-evaluation of these chains will become an essential tool for developing strategies for e-business and managing the on-going change processes.

Assignment



Assignment

1. In planning, an impact model is one in which IT opportunities for strategic advantage are identified and will then lead business strategy. Alignment models are where the organisation will identify IT support for business strategies. Select two of the SISP methodologies introduced in the previous section and compare and contrast these. Would you classify them as impact or alignment models?

Using this classification, Plant's e-commerce strategy (as described in the previous module) would be an "impact" model and the seven "S" model would be an "alignment" model. Try to apply these two models to your own organisation. What do you see as their strengths and weaknesses?

2. Charles Schwab is regarded as a company with highly effective use of Management Information Systems and strategic deployment of e-business services worldwide. Go to the Charles Schwab Asia site. <http://www.schwab-worldwide.com/asia>

This is one of their most successful sites. Why do you think this is the case? In particular:

- a. What would you see as their competitive strategy?
- b. Compare the Schwab strategy against E*Trade. Look specifically at the way each entered foreign markets. Are they using joint ventures, acquisitions or franchising?
- c. Which company do you believe has the more aggressive strategy and which company do you believe will be the more successful?

Case Studies



Case study

1. What Sells Best Online?

Read the following news release (adapted from <http://www.ecommercetimes.com/perl/story/16587.html#story-start>)

Many lessons can be learned from the merchants that hawk the best-selling products in e-commerce. Among other things, experts said, top sellers offer goods with few surprises that are easy to ship; they successfully separate the product from the buying process; and they offer extensive resources that allow comparison shopping across multiple channels.

Companies like Amazon.com (Nasdaq: AMZN), for example, have had marked success selling books and music CDs. The reasons for such triumphs are simple:

Buyers know exactly what they are getting, and the items sold are small and flat enough to be shipped conveniently. The things that sell best online are products that have the least surprise and the least variability – books and music, by a landslide, are the top-selling items on the Web.

Items like gourmet foods, wine and jewellery, for which tastes can vary broadly, are a much harder sell online, as are perishable or fragile products that cannot be shipped as easily as books. A growing number of businesses are following the Amazon model to boost revenue: for example, online DVD rental services that let registered customers post a list of movies they want to view. Films on a customer's list are shipped to that customer as they become available, and the customer receives another DVD on the list when the previous item is returned.

Like Amazon's model, this concept combines a mass-distribution model with a good personalisation feature, and it appears to be catching on. Also among the Web's top sellers are companies that successfully separate the process of buying a product from the experience of using it. Experts said the best example of this approach is airline ticket sales. Buyers are especially receptive to online air ticket sites – like those offered by Orbitz and Travelocity – because they provide centralised places for comparison pricing, scheduling and completing a purchase. Moreover, they do not require long waits in lines or lengthy telephone queues. It really helps if you are able to split the object being bought – in this case, a vacation or business trip – from the purchase process.

More movie theatre tickets also are being sold online, particularly in large cities. Concert and sports ticket sellers should be able to take advantage of this concept, too, especially as mobile data devices become commonplace. In addition, successful sellers often offer comparison-shopping services that help seal the deal online or at a brick-and-mortar location. Online car-buying sites are the best



example. Even though most car sales are not completed online, websites are playing an increasing role in getting buyers onto dealer lots to finish the purchase process, largely because there are vast amounts of presale research available at car sites.

The online research factor also helps account for sales of items like personal computers and peripherals, among the top-selling products online. The key is a multichannel approach:

Computer makers either sell the product on their site, as Dell does, or use their site to steer customers to retail stores. What's emerging is that except for a few categories, the Internet is just another touch-point for the customers. This is especially important, because about one-third of potential customers of most businesses do not have access to e-commerce yet. For retailing, the point is not to try and find one best channel but to use multiple channels and let the customer choose which one is best.

Companies also would do well to emulate eBay by fostering a sense of online community. A community atmosphere has helped make hobby and collectible items among the most popular products sold online, largely because such an atmosphere brings together like-minded buyers and sellers. Online merchants can score big with customers simply by making their lives easier.

According to experts, the next big e-commerce wave could be fuelled by grocery companies — but not those that rely solely on home delivery, as e-commerce flameout Webvan did. Tesco, the U.K.'s largest supermarket chain, has scored an apparent hit with a service that lets online customers order groceries and pay for them in advance. Items are located and bagged by store personnel, so they are ready to be picked up by customers. Tesco's service saves huge amounts of time for many customers and carries negligible infrastructure costs for the company because it makes use of existing stores. The service, which also includes home delivery options, has inspired similar online programs recently launched by American grocery chains Safeway and Albertson's. Other types of businesses also should experiment with using online scheduling and ordering services to boost business. Dental offices, dry cleaners, car-repair shops, barbers and hairstylists, for example, would do well to let customers schedule appointments online.

Self-service appointment scheduling not only would help free up personnel and streamline operations but also would be welcomed by customers as a way to add flexibility to their busy lives. Happy and loyal customers can only add to a company's bottom line.

- a. Identify three industries where there are significant opportunities for new online services development and explain why.
- b. Using these or an industry with which you are familiar, give three examples of how you might keep the customer in the loop.



Case study

2. *Case study of Ebabyasia.com*

We are going to focus here on a start-up company in Asia and review their value chains. Read the description provided and then check out the website before answering the questions.

This is a “clicks and bricks” approach to selling baby products across the region by re-enforcing its online presence with physical fulfilment centres in Hong Kong, Singapore and Taiwan.

Supplementing the offline retailing operation, e-commerce now makes up 60 per cent of ebabyasia’s entire sales. The site was launched in 2000 and boasts an average transaction price of USD 200.

The company secured funding from techpacific.com, a Hong Kong based technology incubator.

The company has four managing partners, one of whom, Peter Tse, is the chief technology officer of ebabyasia, having returned from the United States in 1999 looking for online opportunities to set up new companies. He has designed a workflow system to track the tasks needing to be done and he has two full-time IT support staff. “As CTO, the key challenge is to see what the technology can do and what the business will require. I need to do that with the limited resources of this small company,” he says.

Because of its size, the company has relied on off-the-shelf solutions such as payment gateway services of HSBC. When a customer has selected goods and wants to make payment, they are transferred to the HSBC site. They give credit card details, get approval, and then come back to ebabyasia site. Tse believes that Hong Kong still lacks trust in the online retail market and it is very difficult to start up a purely on-line company because of lack of infrastructure in Hong Kong. He also believes that the most successful models spawn from traditional businesses with offline operations to complement the online activities.

The original company was founded by Cameron Honarvar and known as Karin’s Korner, a shop selling baby products in Hong Kong. He was interested in bringing his business online and at the time, Tse was interested in starting his own company. After some negotiation and prototype development, ebabyasia was born.

Go to the ebabyasia website (<http://www.ebabyasia.com/>) and analyse the processes and activities. Use the example shown below as a guide for your analysis.



Process/Activity	Customer Services	Infrastructure Components
<i>Information Search & Data transfer</i>		
<i>Selection & Customisation</i>		
<i>Order placement & Fund transfer</i>		
<i>Product delivery</i>		
<i>After-Sales Activities</i>		
<i>Online Advertising</i>		
<i>Work flow management</i> <i>Business relationship management</i>		

- a. How has Tse expanded this company into the global market?
- b. Where has he placed the emphasis? Is there one dimension which he has expanded more than others?
- c. How has he utilised the concept of “community”?
- d. What linkages does the company have?



Case study

3. Case Study of E-Commerce – WWW.ActionAce.com

Here is a short case study for you to read over. You may find that the company's website has altered since the case was prepared, but it would be most useful if you would read the case and answer the questions before you go to the site. You may find that changes on the site confirm your ideas.

Background of the Company: ActionAce.com (A2) is a cyber store founded in Hong Kong in 1998 that retails pop-culture products (for example, Batman, Star Trek, DragonBall) including toys, action figures, video games, movies and music.

Most of A2's customers are from the U.S. though it takes orders from around the world. To keep shipping costs down, A2 has had a distribution centre in California since September 1998, from where all A2's products are shipped.

At present (1999), A2 has a total of 24 employees in Hong Kong and the U.S. The Hong Kong office, A2's headquarters, is mainly responsible for strategic planning, administration and sourcing, while the U.S. office is responsible for creative design and distribution.

Electronic Commerce (E-commerce) Activities: A2 launched its website in June 1998. The site showcases A2's products and allows customers to place orders on-line.

The site carried around 300 product items and had about 15,000 visitors in its first month. At present, the site carries more than 1,000 items and attracts several hundred thousand visitors every month. The accumulative number of visitors to the site in the last 12 months exceeded 2 million.

Upon receipt of an order, A2's information system will perform the following functions automatically:

- Process credit card payments electronically at the time of purchase;
- Issue order confirmations by e-mail at customers' request;
- Generate an invoice for forwarding to the distribution centre in California where the order is filled;
- Print a shipping order with a tracking number for affixing on the product package for the customer; and
- Update A2's inventory data.

A2 currently keeps inventory on about one-third of the items it carries, which are the more popular ones. Its information system monitors the inventory and will issue notice for re-ordering in respect of items that fall below a preset inventory level. If the supplier



concerned has established an electronic data interchange (EDI) link with A2, the order will be issued electronically.

For the remaining two thirds of the items, A2 relies on the inventory kept by its suppliers.

By linking its website with the suppliers' inventory system through electronic means, A2 is able to sell on the basis of what its suppliers have in stock. When A2 receives an order, it immediately passes the order to its suppliers who are required to deliver the products to A2 by the next day. A2 will then ship the goods to the customers.

A2 makes extensive use of banner advertisements in the promotion of its business on the Internet.

Outlook: A2 has a very optimistic outlook about the future of retailing on the Internet and is planning for a major expansion in the second half of 1999. The company plans to expand its product line significantly and invest heavily in advertising in the U.S. market to build up its brand name there.

A2 aims to build a pop-culture community around its website. A2 has already started to publish a weekly magazine on toys, comics and movies at its site, and is planning to launch an auction market for collectible toys/action figures in September or October 1999.

A2 is confident that Hong Kong will become the Internet hub of Asia. A2 will position itself as an Asian brand and will continue to base its headquarters here to leverage on Hong Kong's strategic advantage in sourcing.

- a. What benefits do you see that doing business on the Web brings to ActionAce?
- b. What challenges, in your view, does the company face?
- c. The company is thinking of introducing an auction on its site. From what you have learnt of auctions in this course, which model of auction do you think would be suitable for the company, and why?





Case Study Reading 3.1



Case study

Case Analysis – SCMP.com: Strategic repositions of a newspaper. (2000). The University of Hong Kong.

Please read the case on SCMP.com. Strategic Repositioning of a Newspaper and answer the following questions:

1. Identify SCMP's strengths and weaknesses (do a SWOT analysis) as an electronic publisher
2. Evaluate SCMP's current strategy using Porter's Five Forces framework—what barriers to entry have they established? What others can they consider?
3. Review this strategy using Venkatraman's five steps of dot-com strategy.
4. How should SCMP.com price its online product?
5. How can SCMP.com build an installed customer base for its online products?
6. Should SCMP.com be a separate cyberbusiness? Why or why not?

Assessment



Assessment

1. Identify three major differences between the four eras of IS: DP, MIS, SIS and IOS. Why do planning methods have to undergo significant change now?
2. Why are SISP methodologies which existed in the 20th century no longer as appropriate for the new Internet economy?
3. What do you see as the major problems in adopting this new SISP model for the extended business network?
4. How best might you implement this model in an EVN: top down or bottom-up?

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