

4 Strategies for Business Networking

Rainer Alt, Thomas Puschmann, Christian Reichmayr

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4.1 Introduction

4.1.1 Strategic Relevance of Business Networking

As the networking scenarios in Chapter 3 revealed, Business Networking provides a strategic concept enabling new and/or more efficient processes to be introduced by extending the application of IT to relationships a company has with its partners. A broad variety of strategies are under discussion, such as outsourcing, virtual organizing, electronic commerce or supply chain management. Apart from clarifying the value added of each conceptual approach, differentiation of strategies helps in deciding how strategic goals, such as strengthening an existing market position, can be achieved.

This is shown by the example of Diamond Multimedia Systems, Inc., which was acquired by S3 Inc. in September 1999. S3 is a USD 350 million manufacturer of multimedia devices for home and business computer systems located in Santa Clara (CA), USA. In 1998, Diamond introduced the 'RIO' music player, a portable device able to store and play back 60 minutes of music using the MP3-format which is typically downloaded from the Internet. At that time Diamond only possessed an Internet store which was managed by Diamond's customer service [cf. Diamond 1999]. The company knew that same-day shipments and near flawless execution would be critical for successful selling on the Internet.¹ Since Diamond recognized that it would be unable to provide the necessary response times it turned to Skyway, a well-established logistics provider who also serves Dell, Cisco Systems, Compaq, and Hewlett Packard. With their 'Concerto suite', Skyway offered electronic support for demand planning, warehousing, order management, and fulfillment [cf. Skyway 1999]. Concerto provided Diamond with a system to handle the high-volume, one-at-a-time orders which were expected for RIO without having to invest in modifying their existing internal system. The savings in manual labor estimated at between USD 250,000 to USD 500,000 are marginal compared to the advantages in terms of time and quality.

The Diamond example highlights the various strategic elements that have to be addressed within a Business Networking strategy: (1) What are the company's core competencies today and what are future business segments, (2) What are the partnering characteristics (number of partners, closeness of cooperation), and (3) which are the processes to be addressed with a Business Networking strategy?

¹ Before introducing the RIO, Diamond distributed its products primarily through indirect channels via system integrators, value-added resellers, distributors and retailers.

4.1.2 Overview of Strategies

Generally speaking, strategies are to be designed to sustain the creation and reinforcement of a unique and valuable competitive position [cf. Porter 1996, 68]. According to [Hinterhuber 1992, 7], strategies encompass four main activities:

1. The analysis of the initial strategic situation.
2. The decision about the future position to be established in a competitive environment.
3. The selection of differentiation elements (technologies, etc.) that determine the competitive advantage and the appropriate allocation of resources.
4. The commitment to criteria and standards that can be communicated and that permit a strategy's success to be measured.

Many theoretical approaches have been proposed in recent literature to answer the strategic questions in Business Networking. Firstly, there are general approaches to be found in the strategic management literature (cf. e.g. [Porter 1996], [Prahalad/Hamel 1990]) which address the analysis of the existing situation and the development of future competitive strategies. Secondly, there are specific approaches put forward in the organization literature which aim at shaping the cooperation with partners. Examples include the transaction cost framework, literature on virtual organizations and (strategic) networking [cf. Sydow 1992]. Thirdly, we have some more technology-oriented approaches that are geared to providing electronic support for specific business processes, such as electronic commerce for procurement or sales activities.

These three strategic approaches will be combined in two main strategy dimensions of Business Networking.² On the one hand, decisions are required on strategic positioning and the type of partner relationship to be adopted. For example, Diamond decided to concentrate on producing the RIO while outsourcing necessary non-core competencies, such as the transaction infrastructure, to Skyway. This dimension will be referred to as organization strategies. On the other hand, Diamond supports sales and distribution via an electronic platform. Developing decisions on which business processes should be supported and what technological concept should be applied (e.g. electronic commerce) is the object of the second strategy dimension, the networking strategies.

² A comparable distinction has been suggested by [Venkatraman 1991, 141] who distinguishes two strategies for business network redesign: (1) strategies for business governance, and (2) strategies for IT governance.

4.2 Organization Strategies

Business Networking strategies have to connect to the general business strategy as seamlessly as possible. This means that the potentials of Business Networking are part of the overall strategy and that strategic goals can be directly translated into consequences for Business Networking. This is the purpose of organization strategies.

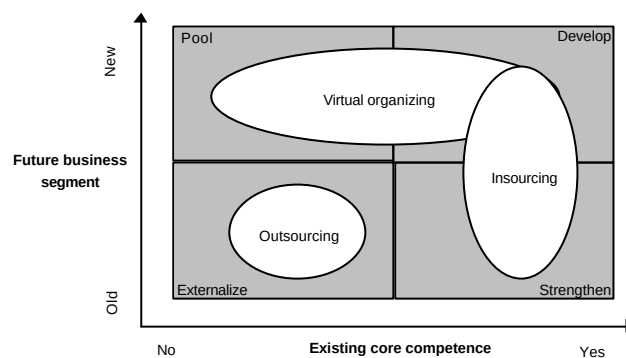


Figure 4-1: Alternative Organization Strategies

As Figure 4-1 illustrates, we need to identify whether a Business Networking relationship supports business in an existing or a new business segment. To a large extent, this decision depends on what the existing core competencies are³:

- Develop new resources with existing core competence in a new business segment
- Externalize resources if it is a non-core competence in an old business segment
- Pool resources with partners if a new business segment is to be entered without having all required core competencies to be competitive in this field
- Strengthen resources with an existing core competence in an old business segment

Table 4-1 also shows that several organization strategies are available in theory and practice for designing the partner relationships in these four cases. From the variety of existing approaches (see Table 4-1) three organization strategies will be elaborated in more detail: insourcing, outsourcing and virtual organizing. The

³ According to [Prahalad/Hamel 1990], core competencies: (1) provide potential access to a wide variety of markets, (2) should make a significant contribution to the perceived customer value, and (3) should be difficult to imitate for competitors [see also Reve 1990].

special fourth quadrant shows an overlap of two strategies and will be described separately.

Approach	Options	Reference
Transaction cost economics/ organization theory	Hierarchy, market, hybrid Electronic markets, Electronic hierarchies Inhouse manufacture market supplier, partnership	[Williamson 1985] [Malone et al. 1987] [Clemons/Reddi 1993]
Telecooperation	Hierarchical organization Networked organization, Modular organization, Virtual organization	[Reichwald et al. 1998]
Strategic networks	Internal networks, stable networks, dynamic networks Quasi-externalization, quasi-internalization	[Snow et al. 1992] [Sydow 1992]
Virtual organizations	Intraorganizational, interorganizational	[Davidow/Malone 1992], [Bleicher 1996], [Scholz 1997]
Resource-based approaches	Pooling, allying, linking	[Moss-Kanter 1989]

Table 4-1: Existing Approaches to Organization Strategies

4.2.1 Outsourcing – Externalizing Non-core Competencies

Traditional business resources which are not part of a company's existing and/or future core competencies are typical objects of an outsourcing strategy. For example, *Trust Bank* is a regional bank with over 50 locations in Australia. Trust Bank is structured around four strategic areas: the bank network, electronic banking, personal banking as well as commercial banking and manages over USD 1.8 billion in assets [cf. Hewlett Packard 1998]. In 1991, Trust Bank acquired Tasmanian Bank and was having problems to integrate the two different IT systems into one. Due to the critical nature of systems for the business, IT operations were outsourced to Hewlett Packard's operations services division. Trust Bank is now concentrating on developing custom applications and creating new IT based services within their core competencies (see Figure 4-2).

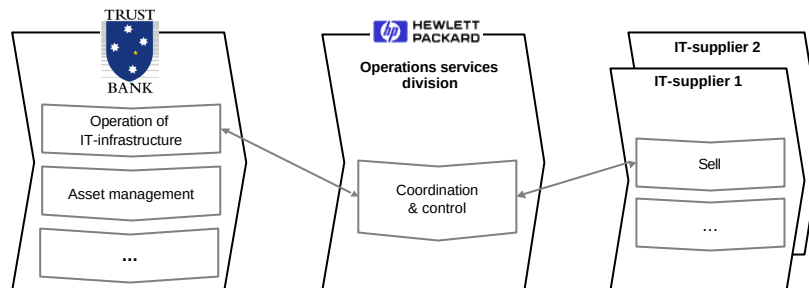


Figure 4-2: IT-Outsourcing at Trust Bank

Outsourcing is an organization strategy which allows major, non-core functions to be externalized to specialized service providers that established a core competence in this specific area [cf. Sägesser 1999, 25]. Outsourcing is different from classical subcontracting since it concerns non-core activities which are traditionally performed inside a company, e.g. an activity in Porter's value chain model (cf. [Koppelman 1996], [Lacity/Hirschheim 1995]).

In 1997, the Dun & Bradstreet Corporation and The Outsourcing Institute released an outsourcing index designed to measure the changes in the level of outsourcing activity in the United States. According to a study [cf. Outsourcing Institute 1999] six main areas of outsourcing can be distinguished: finance (11%), human resource (15%), information technology (30%), marketing & sales (14%), administration (8%) plus some minor ones (22%). The study reveals that U.S. companies with over USD 80 million in revenue expect to increase expenditures for services they outsourced during 1997 by 26% to approximately USD 85 billion. Over the next three quarters, outsourcing activity is anticipated to rise by 16% to USD 146 billion [cf. Outsourcing Institute 1999].

4.2.2 Insourcing – Strengthening Existing Competencies

Compared to outsourcing, insourcing concentrates on the acquisition of competencies that are apt to strengthen already existing core competencies (cf. e.g. [Andrade/Chapman 1998], [Westkämper/Wildemann 1993]). For example, the German post office organization, *Deutsche Post*, acquired the Swiss Danzas Group which bought the European transport and distribution division of Dutch Royal Nedlloyd N.V. Plans are for Deutsche Post to take over Nedlloyd's parcel business and Danzas' logistics business to integrate them into their own organizations [cf. Schnitzler 1999]. Both acquisitions clearly strengthen the scale and scope of Deutsche Post in its existing market segment, the transportation of parcels [cf. Deutsche Post 1999]. Similar insourcing activities can be observed in other industries

as well. Examples are telecommunications (e.g. AOL/Worldcom merger) or the automotive sector (e.g. DaimlerChrysler).

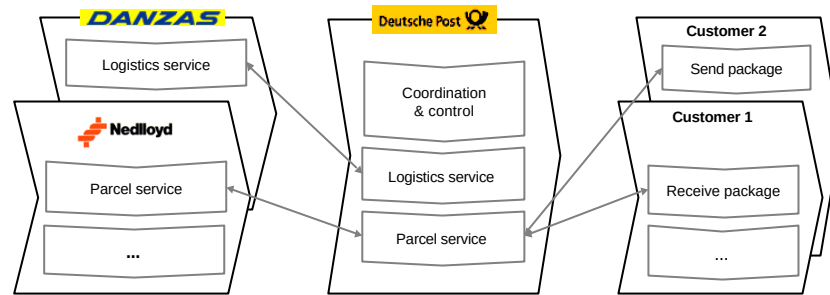


Figure 4-3: Insourcing at Deutsche Post

4.2.3 Virtual Organizing – New Segments with Cooperation Partners

Virtual organizing is a strategy that emphasizes the network as an entity. Although various legally independent partners cooperate within this network, an integrated product is offered on the marketplace. It is a central characteristic of a virtual organization that none of the participants could offer the same service individually and that virtual networks are temporary in nature (cf. [Davidow/Malone 1992], [Byrne 1993]). According to [Faucheux 1997], [Venkatraman/Henderson 1998] and [DeSanctis/Monge 1998], the term virtual organizing has been chosen instead of virtual organization in order to emphasize the process nature and to denote all possible organizational arrangements between market and hierarchical coordination forms.

An example of virtual organizing is *Enba*, a start-up venture which offers Internet based financial services from Dublin, Ireland. Although Enba does not possess the necessary resources, it sees its competitive advantage in a virtual business model that pools different, legally independent companies under one brand, but appears as one company to external parties. In contrast to vertically integrated competitors, Enba works with a selected group of internationally renowned partners, each chosen for its individual expertise in providing a specialist contribution to the overall service offering. For instance, The Royal Bank of Scotland is responsible for clearing and settlement, the Merchants Group takes responsibility for all call center operations, whereas stock orders are forwarded to Dresdner Kleinwort Benson who take on the execution. All processes are automatically run on the Internet, controlled by accompanying information systems. These systems enable customers to easily set up or delete accounts or calculate stock values and price risks. At the same time, they provide the platform for the integration of all participating

partner companies and Enba is able to offer stock orders 50 % cheaper than its competitors.

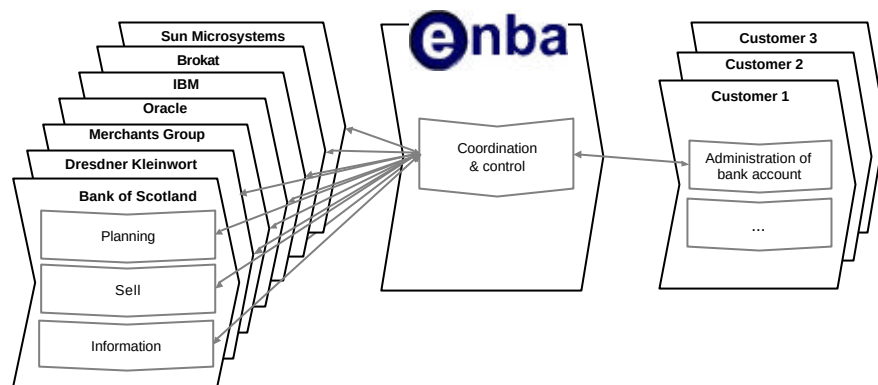


Figure 4-4: Virtual Organizing: Enba's Business Network

Enba constitutes the center of a business network in which the company concentrates on its core competence: the coordination of a pooled business network consisting of legally independent companies (see Figure 44). A virtual organizing strategy can therefore be defined as an *organization strategy in which a collection of legally independent companies, institutions, or individuals come together quickly to cooperate for a particular mission*. Its characteristics may be summarized as follows (cf. [Mertens et al. 1998, 3], [Arnold et al. 1995, 10]):

- *Common business objective.* All partners strive at providing a common service or product. Each member brings to the cooperation his core competencies and all act as an entity vis-a-vis the customer.
- *IT-platform.* Compared to internal coordination, virtual organizing involves more coordination, e.g. exchanging order, invoice or status information. These requirements are compensated by process standards and IT platforms.
- *Trust.* Because of the need for speedy action, not all aspects of the relationships can be backed up by formal agreements. Therefore, it is crucial that a large amount of trust should exist among members.

4.2.4 Developing New Business Segments

Both insourcing and virtual organizing may also be applied by companies aiming at entering new business segments that are in line with their existing core competencies. Developing existing core competencies to enter new business segments

can basically be achieved by teaming up with partners or by making strategic acquisitions.

For example, *Ariba* offers an operating resource management system (ORMS) to manage the procurement of MRO goods within an enterprise. By implementing the Ariba.com Network, the company aims at developing its core competencies in ORMS to build up a new service that connects buyers and suppliers over the Internet (cf. Chap. 10.2.1). To meet these challenges, the Ariba.com network incorporates a number of Internet services including catalog and content management, order transaction routing, and multi-protocol support for numerous standard ways of exchanging content and transaction information. Ariba developed its existing core competence (ORMS) for the new (Internet) business segment.

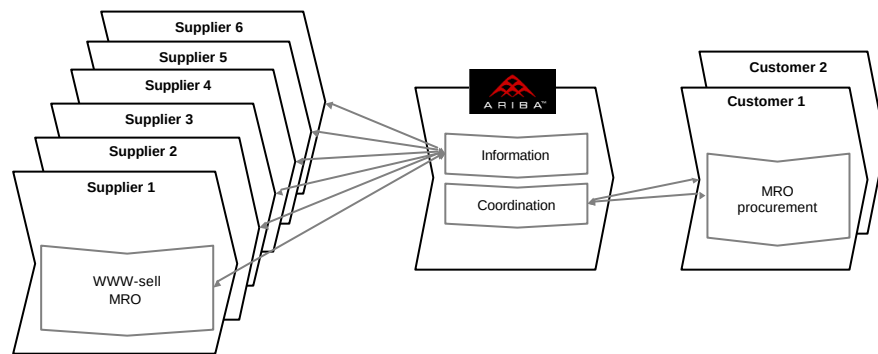


Figure 4-5: Ariba's WWW-Site

Ariba is also an example for the next development in Business Networking: electronic services (eServices). Increasingly, existing business-to-business relationships will be enhanced to offer individual services that generate new revenue. These eServices are available over the Internet and a high degree of standardization and modularity allows them to be integrated into internal application landscapes (cf. Chap. 2.3.5). eServices are a consistent continuation of outsourcing and concern areas, such as payroll processing, Web-site development and hosting, and credit card processing. Increasingly, eServices are evolving for more business oriented areas as well: bill presentment and reconciliation, credit checking, freight forwarding, customs clearance, field service, inventory management, and supply replenishment.

The strategy framework clearly shows that the development of new business segments (e.g. eServices) can either be done by pursuing an insourcing strategy (e.g. Ariba) or a virtual organizing strategy. The latter has been done by *AFB Software* in Munich who initiated a cooperation with *AutoBild*, a German automobile magazine. In March 1999 they launched 'Autokatalog', an Internet catalog for prospective buyers to configure a car to suit their preferences. It includes more than 3,000 models and more than 250,000 available after-market items. From Autokatalog, a

customer may also obtain such information as actual market surveys, interior and external views of the car and a calculation of individual leasing, financing and insurance facilities [cf. AFB 1999]. AFB is linked to various finance and insurance companies, permitting real-time calculations and cooperation with existing dealers. Inquiries are routed to the nearest dealer who will fix an appointment for a test drive.

All companies involved in this eService cooperate to serve a new market with their existing core competencies. AutoBild, for example, uses its brand recognition to enter a new market segment – the sale of cars. Insurance, finance, and leasing companies are enabled to extend their business segment and develop their core competencies by offering the new services.

4.2.5 Summary of Organization Strategies

All examples discussed above have emphasized the role of core competencies and the future positioning in the market. They have shown that Business Networking can support various strategic goals that have to be decided in close coordination with the general business strategy. Business Networking consequently extends a company's core competence strategy. For example, by allowing a company to focus on core competencies, Business Networking can strengthen its position in an existing business as well as enable it to exploit new business opportunities (e.g. eServices).

Each of the organization strategies has a specific profile characterizing the cooperation (see Table 4-2). The strategies vary according to the number of partners involved as well as the depth and the duration of the partnership. For example, insourcing relationships are more of a long-term nature than virtual organizing relationships. Virtual organizing is the strategy that yields the highest flexibility (e.g. to respond to changing market demands), whereas insourcing is not really very flexible in changing existing internal partnerships.

Strategy	Outsourcing	Insourcing	Virtual Organizing
Criteria			
Number of Partners	1	1	n
Depth of Cooperation	deep	deep	medium
Duration of Cooperation	long	long	medium
Flexible Response	medium	slow	fast

Table 4-2: Profiles for Organization Strategies

4.3 Networking Strategies

As explained above, networking strategies put their focus on the processes between business partners and the applications supporting these processes. In Chapter 3, the relationship between Business Networking scenarios and Business Networking strategies has already been indicated. Three main networking strategies have been mentioned [cf. Kalakota/Robinson 1999]: electronic commerce, customer relationship management, and supply chain management. The networking strategies are designed to address different types of processes (see Figure 4-6) with the emphasis on different aspects:

- *Customer relationship management* (CRM) aims at supporting the whole relationship a company has with individual customers. To characterize CRM functionality the customer buying cycle is used which includes marketing, evaluation, buy, and after-sales activities.
- *Supply chain management* (SCM) focuses on supporting four main business processes: source, plan, make, and deliver. These processes from the SCOR-model aim at designing a smooth flow of goods, information and funds.
- *Electronic commerce* (EC) focuses on transaction processes and can be applied at the links of various business processes. For example, EC can support the outsourcing of payroll activities, the auctioning of surplus capacities in sales, the procurement of indirect goods and the like.

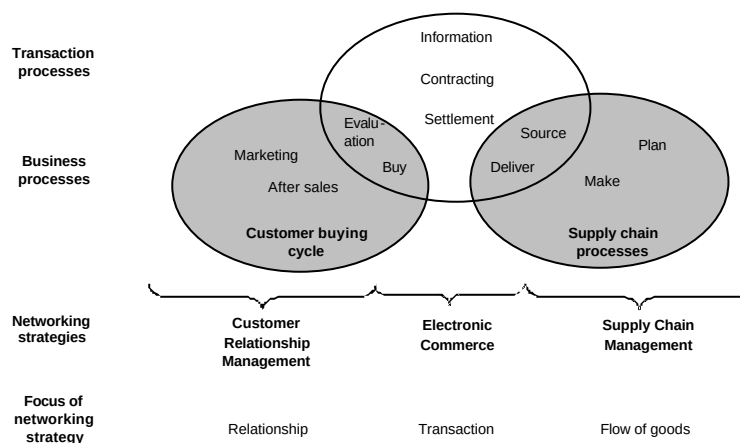


Figure 4-6: Processes in Different Networking Strategies

Business Networking integrates the three networking strategies that have emerged as separate fields from a holistic perspective. The isolated evolution of each strategy explains the heterogeneity of the process models. For example, the processes

of information, contracting, evaluation, buy, and source are inherently similar. The same is true for settlement and deliver processes. From this, two insights can be derived:

- Business Networking strategies involve overlaps which indicate that links between the strategies have to be taken in consideration. Consequently, EC or supply chain strategies need to be enhanced by elements of other strategies.
- Business Networking strategies have individual emphasis which justifies the distinction of three different networking strategies. EC concentrates on shaping transactions, especially information and contracting processes, CRM concentrates on relationship processes, i.e. processes that go beyond individual transactions, and SCM concentrates on planning and production processes.

Therefore, Business Networking involves conceptualizing and managing multiple networking strategies at the same time (see Table 4-3).

Electronic Commerce	
Entire collection of actions that support commercial activities on a network	[Adam/Yesha 1996, 5]
Any form of economic activity conducted via electronic connections	[Wigand 1997, 2]
Use of digital processes to improve efficiencies of commercial transactions and processes as well as a means to offer new, digital product	[Choi et al. 1997, 12]
Supply Chain Management	
Integration of all activities associated with the flow and transformation of goods from the raw materials stage to the end user	[Handfield/ Nichols 1998, 2]
Management of upstream and downstream relationships to deliver superior customer value at less overall cost	[Christopher 1998, 18]
Process of examining buying and use of purchased materials and services and linking the resources of suppliers to the strategic goals of the company	[Riggs/Robbins 1998, 4]
Customer Relationship Management	
Use of IT in supplier-customer relationships concerning all points of contact (awareness, evaluation, settlement, and after-sales) between a company and their customers	[Österle/Muther 1998, 109]
Three computer-enhanced capabilities – information management, interactive communication and customized products - are integrated to create a 'customer feedback loop' with each individual customer	[Peppers/Rogers 1997, 13]
The management of customer relationship in business media comprises the design, development, and application of holistic concepts in order to manage relationships to economically valuable current or future customers	[Körner/Zimmermann 1999, 461]

Table 4-3: Overview of Approaches to Networking Strategies

4.3.1 Electronic Commerce – Transaction Perspective

Electronic commerce is a buzzword that is frequently applied without reference to the processes that are specifically included. In order to implement an EC strategy, ‘doing business electronically’ is not sufficient. The main processes which are used to characterize EC are developed from a transaction perspective. Transaction cost theory (cf. e.g. [Williamson 1985], [Wigand et al. 1997]) has been applied early by [Malone et al. 1987] to discuss electronic markets and hierarchies. The established phase model distinguishes three phases [cf. Schmid/Lindemann 1998]:

- In the *information phase*, relevant partners and products/services are identified. For example, electronic product catalogs are used to compare products and relevant conditions (prices, delivery deadlines, etc.). This phase is supported by a large number of services, e.g. search engines, such as Altavista, Yahoo! or Lycos, content providers (e.g. Ariba), or community pages (e.g. [<http://bec.iwi.unisg.ch>]). The main thrust is towards establishing multi-vendor platforms permitting thorough comparisons of competing offers.
- The *contracting phase* continues the transaction and establishes a formal, mutually binding relationship between the partners. Contracting includes agreeing on terms and conditions, such as terms of payment, delivery date, delivery conditions, warranty, service levels, etc. Clearly, electronic contracting presupposes the redesign of existing legal rules and appropriate technologies. In both areas, a variety of promising initiatives are under way which will foster the volume of commercial transactions [cf. Schmid et al. 1998].
- The *settlement phase* finalizes a transaction. Physical or virtual goods are delivered and funds are transferred. Currently, many actors are aiming at offering integrated services for settlement processes which have been described as computer-integrated logistics (CIL) [Alt/Schmid 2000]. Examples are electronic commerce services by Deutsche Post or virtual order by Federal Express. The big challenge is to overcome the traditional physical/financial dichotomy and to integrate financial solutions. Modular financial services, such as bill presentment services (e.g. PayNet [www.paynet.ch]) and eCash systems, are being developed.

These transaction processes are used to characterize EC more precisely. *EC denotes the electronic support of information, contracting and/or settlement processes. EC requires that at least information and order entry processes should be supported electronically.* Within EC, various fields have been distinguished. The established differentiations are:

- Depending on the application context, EC can be conducted within an enterprise (intra-business), with business partners, such as suppliers and corporate customers (business-to-business), and with end-customers (business-to-consumer) (cf. e.g. [Kalakota/Whinston 1997], [Schwede 1999]). The focus

of Business Networking is on the intra-business and business-to-business areas.

- Depending on the underlying business processes, EC has evolved for procurement and sales processes. This has led to buy-side and sell-side EC applications (see Table 4-4).

	Sell-side (eSales)	Buy-side (eProcurement)
Potentials	• Additional revenue generation • Improved after-sales service • Set-up of virtual communities	• Higher cost efficiency • Higher process efficiency • Improved supplier management
Technology	• Web-sites/catalogs • Trading platforms • Hosting services	• Workflow/catalogs • Procurement services • Hosting services

Table 4-4: EC-Potentials and Technologies

An example for a buy-Side EC-application is provided by *W.W. Grainger's* procurement system. W.W. Grainger, Vernon Hills, USA, brought together six different suppliers of MRO goods and created a one-stop online buying center.⁴ Via OrderZone.com, customers place their order and receive one invoice across multiple suppliers [cf. Order Zone 1999]. OrderZone.com routes the orders to each supplier for fulfillment (see Figure 4-7). When customers are finished, a completed order form containing all necessary information (such as shipping, billing information, multiple quantity and total calculations, etc.) is generated and various schemes are offered for payment (such as credit cards, and open-account billing). OrderZone enabled Grainger to create a new service and to enter new market segments. It streamlines the procurement process and standardizes trading procedures which has led to a 10% reduction in buying costs for Grainger. Delays and errors in procurement are reduced and all interaction with customers is performed via one channel.

⁴ Participating companies include: Cintas Corp. (uniforms), Corporate Express (office supplies), Lab Safety Supply (safety supplies), Avnet Marshall (electronic components), VWR Scientific Products (lab supplies), and Grainger Industrial Supply (MRO supplies).

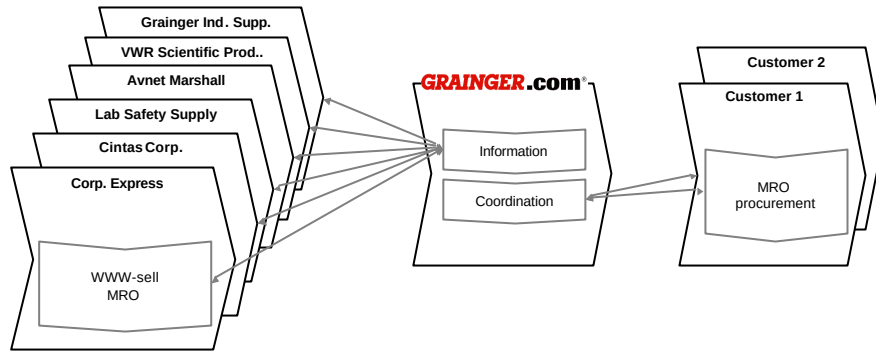


Figure 4-7: Buy-side EC at W.W. Grainger

Blaupunkt Extr@Net is an example of an eSales application. A subsidiary of Robert Bosch GmbH in Hildesheim, Germany, Blaupunkt is a manufacturer of car communication technologies, e.g. car audio, traffic telematics, and radiophones. With about 7,000 employees (2,600 in Germany) and a volume of five million car radios per year, Blaupunkt is a European market leader in car radios [cf. Blaupunkt 1999]. In July 1998, Blaupunkt introduced an Internet-based electronic catalog which enables specialized traders and after-market customers to order products and to obtain information about products, prices, delivery status and backlogs (see Figure 4-8). The catalog is divided into 13 sub-product groups (from antennas to accessories) and may also be downloaded. Customers can place articles into a simple shopping basket specifying desired delivery dates. Further benefits are: no order and express forwarding expenses, information about delivery times, available products and campaigns. For Blaupunkt the largest benefit came from the savings in manual order entry which took up about one third of the time the sales people spent on this operation before the solution was implemented.

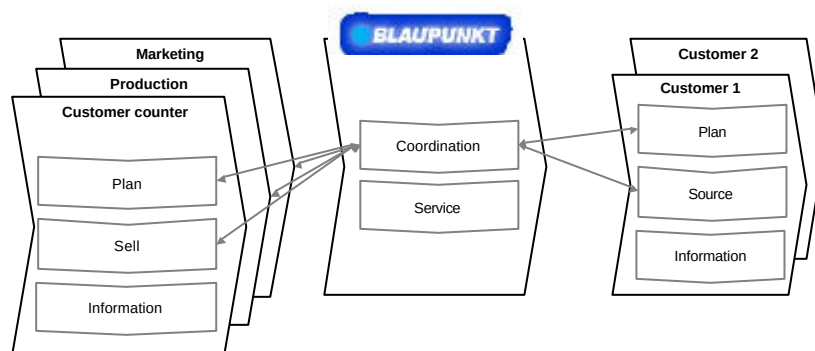


Figure 4-8: Sell-side EC at Blaupunkt

4.3.2 Supply Chain Management – Flow Perspective

Another Business Networking strategy that mainly evolved from the logistics discipline is supply chain management. SCM aims at optimizing the flow of goods between multiple processes [cf. Handfield/Nichols 1999, 2]. First logistics approaches were geared to overcoming the functional orientation within an individual company which involved the coordination of materials management along procurement, production, warehousing, and distribution activities in order to reduce inventories and increase flexibility to react to changing market demand. With the advent of ERP systems many companies have achieved considerable levels of internal supply chain optimization. The current developments are focused on enhancing these solutions in two respects:

- Improve coordination of physical and financial flows in order to reduce cash cycles, and
- Extend supply chain optimization efforts to external partners, such as suppliers, distributors, retailer, and, ultimately, customers.

Clearly, extended supply chain solutions are made possible by the use of potentials of information technology which reduces the specificity of technological investments and increases interoperability among IT systems [cf. Dubois/Carmel 1994]. An example of this networking strategy is the *Taiwan Semiconductor Manufacturing Company* (TSMC) in Hsin-chu, Taiwan. TSMC is the world's largest contract manufacturer of integrated circuits, with revenues exceeding USD 1.5 billion. TSMC's competitive advantage has traditionally come from technology, capacities, and pricing. With increasing competition, TSMC realized the need to focus on superior customer service aiming at better differentiation. It was mainly in respect of two criteria that performance was to be improved: visibility into the off-site manufacturing process and order lead time [cf. Orths 1995, 29]. The solution was to remove the internal/external barrier and to give partners access to the same amount of information as available to internal production units. TSMC's first business partner was Adaptec, the USD 1 billion manufacturer of networking and I/O equipment. To reduce order lead times, information links were established for Research & Development (R&D), forecasting and the execution of supply chain processes (see Figure 4-9).

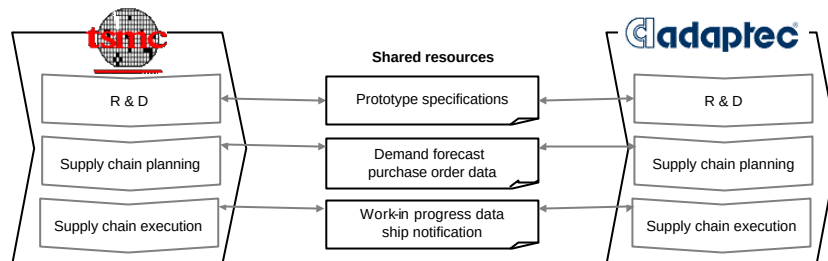


Figure 4-9: Supply Chain Scenario at TSMC and Adaptec

To take advantage of scale effects and to increase supply chain efficiency with other partners, TSMC wants to roll out the scenario to other customers as well. Although the solution will be customized for each customer, TSMC estimates that 80 % of its customer base are eligible for this solution. The benefits resulting from the solution are significant (see Table 4-5) and illustrate the potentials of Business Networking to create win-win situations with partners. But above all, TSMC has been able to achieve its goal to stay competitive and to become an industry leader.

TSMC's Benefits	Adaptec's Benefits
- Increased customer satisfaction through customer's increased real-time visibility into their supply chains, the reduction in lead time and inventory levels, and improved on-time deliveries - Customer's product lead time reduced by as much as 25 % - Reduction in work-in-progress inventory carrying costs due to cycle time reduction - Improved capacity planning with demand forecasts	- Increased customer satisfaction through reduction in lead times and improved on-time delivery - Cycle times cut by as much as 50 % - Inventory levels reduced by 25 % - Integrated processes for invoicing, sharing of quality data

Table 4-5: Benefits of SCM at TSMC and Adaptec

The advantages at TSMC are mainly based on exchanging information on forecasts, stock levels, orders, work-in-progress data and the like (see Table 4-5). This is also reflected in supply chain models, such as SCOR⁵, which builds supply chains using four core logistic processes (plan, source, make, deliver) and three core management processes (planning, execution, infrastructure). A combination of both dimensions (Table 4-6) serves to develop a detailed functional view of

⁵ SCOR is a process reference model and was first published as version 1.0 in November 1996 by the Supply Chain Council (SCC) as a cross-sector standard from 73 Fortune 500 companies. The prime goal is to provide a language standard for intra and inter-company communication with SC partners [cf. Supply Chain Council 1998]. For the SCOR model, see also Chapters 6 and 9.

supply chain processes that are contained in the more general type of supply chain strategies, such as:

- *Integrated logistics solutions.* Supply chain processes are bundled into an integrated logistics solution. Often, these solutions focus on planning and delivery processes. Prominent providers are such integrators as FedEx.
- *Global supply chain visibility.* Information about supply chain performance (status of resources and flows) is pooled in centralized databases. Euro-Log, for example, performs the tracking & tracing between multiple business partners.
- *Global sourcing.* Sourcing activities are consolidated across organizational boundaries which involves designing vendor contracts, demand planning and the like (Table 4-6).
- *Vendor-managed inventory (VMI).* Inventory at the customer is managed by the vendor. This strategy involves elements of all four processes and will be described in more detail in Chapter 5.
- *Quick response (QR).* An order system permitting fast reaction, based on EDI over the whole supply chain, to customer individual demands [cf. Walker 1994].
- *Continuous replenishment (CRP).* A continuous, standardized and automated system of supplying materials based on scanner data direct from point of sale (POS), e.g. Wal-Mart [cf. Klaus/Krieger 1998].

	Planning	Execution	Infrastructure
Plan	• Supply network planning • Life cycle planning	• Supply chain configuration • Make-or-Buy decision	• Long-term capacity planning • Product line planning • Transport vehicle planning
Source	• Vendor contracts • Demand planning	• Purchase • Payment	• Vendor certification • Warehouse mgmt. • Sourcing quality mgmt.
Make	• Production planning	• Manufacture: - Make-to-stock - Make-to-order - Engineer-to-order	• Product quality mgmt. • Facility/equipment maintenance • Short-term capacity planning
Deliver	• Order mgmt.	• Pack • Load • Deliver	• Warehouse mgmt. • Packing mgmt. • Crossdocking mgmt. • Car pool mgmt.

Table 4-6: Examples of Supply Chain Processes

Conventional ERP systems were unable to cope with the variety of supply chain strategies and the complexity of process configurations. This has led to the evolution of specific supply chain applications which focus on calculating demand patterns, simulating production capacities, etc. An overview of these advanced planning systems (APS) is provided in Chapter 9.

4.3.3 Customer Relationship Management – Relationship Perspective

Compared to EC which has its focus on transactions and SCM which focuses on flows, the third Business Networking strategy presents a distinct relationship perspective. While EC assumes an atomistic transaction perspective, SCM is production-centred with marketing or sales activities being secondary considerations. Customer relationship management recognizes that customer relations stretch across atomistic transactions and that pre-sales and after-sales activities are an inherent part of customer-orientation in Business Networking.

LGT Bank, Liechtenstein, for example, as described in Chapter 7.2, increased its focus on the needs of clients in order to remain competitive. As a result, the bank decided to integrate front- and backoffice processes via a common information system to create a customer-centric organizational structure. Another compelling example of customer orientation is *SAP AG* (cf. Chap. 3.2.4) which aims at achieving and maintaining customer relationship by offering a large number of electronic services and setting up a virtual community. *Avnet Marshall* (cf. Chap. 3.2.3), a company which succeeded by structuring the entire organization around the customer, created the junction box, a series of IT systems that support relationships between *Avnet Marshall*'s customers and suppliers. Transaction functionality (EDI, Web order entry) has been enhanced with *Avnet Marshall*'s Intranet (*Avnet MarshallNet*), an electronic catalog, a 24 h ordering facility, customized customer Web pages (*PartnerNet*), the creation and monitoring of customer profiles, a scheduling and replenishment system, as well as training and consulting services [El Sawy et al. 1999].

Customer relationship management means increasing revenues and profitability by coordinating, consolidating and integrating all points of contact that enterprises have with their customers, employees, partners and suppliers which is what in effect integrates sales, marketing, customer service, enterprise resource planning and virtual sales office [cf. Österle/Muther 1998, 108]. CRM primary focuses on the marketing, sales and after-sales processes.

- *Marketing process.* CRM supports the customer and the business itself with information on products, campaigns, customer profiling, etc.
- *Sales process.* CRM supports the customer with call center activities, product configuration information, etc.

- *After-sales process.* CRM supports the customer with problem analysis, guarantees handling, etc.

Between the after-sales and sales processes, we have order processing activities taking place that are not part of the CRM processes themselves. The tasks of these processes are supported by enterprise resource planning (ERP) systems (cf. Chap. 2.3.1). The three CRM processes and the process of order processing can be assigned to the four stages of the customer buying cycle [cf. Muther 1998, 17]. From the identification of customer needs, and the compiling of product and price information, purchase handling right through to the service phase of the customer buying cycle reflects all possible interfaces between providers and customers.

4.3.4 Summary of Networking Strategies

Networking strategies are the second strategic element in Business Networking. Since each strategy emphasizes different processes, the networking strategies complement each other. In general, the profiles of the strategies are (see Table 4-7):

- *Cooperation intensity.* EC deals with a vast number of partners but depth of cooperation, i.e. electronic ordering, is low and duration short. In the case of SCM and CRM, depth of cooperation is great and duration long, in other words, each partner has to be an individual part of the value chain and each customer wants individual attention even when he is not ordering at the moment.
- *Flexibility.* EC and CRM are flexible in responding to changing requirements, i.e. the creation of new catalogs, specific information, etc., whereas SCM is relatively inflexible due to the long period of time required for installation.
- *Specificity.* As elaborated by [Malone et al. 1987], asset specificity largely determines the number of partners and the ease of switching partners. Typically, EC solutions are conceived for a large number of partners and involve a limited depth of cooperation. Low specificity results from using standardized technology and low levels of integration with business processes. SCM requires high levels of process integration and often involves proprietary solutions. Standards in EC and SCM will result in a high degree of process integration at low specificity.

Criteria	Strategy	EC	SCM	CRM
Number of Partners		n	1:n	n
Depth of Cooperation		low	deep	medium - deep
Duration of Cooperation		short	long	medium - long
Flexibility		high	low - medium	high
Specificity of Investments		low	high	low - medium

Table 4-7: Profiles of Networking Strategies

4.4 Interaction of Business Networking Strategies

The concept of Business Networking strategies boils down to the idea that every Business Networking solution has two dimensions and requires decisions in terms of organization and (networking) processes. Therefore, each example can be positioned regarding these two dimensions (see Figure 4-10). For example, Blaupunkt intended to strengthen their market power in the field of car communication technologies and decided to insource with a combination of EC, SCM and CRM: a business-to-business eSales solution, a guaranteed delivery channel (SCM), and after-sales activities (CRM), such as order status tracking, complaint management, training facilities, information databases, etc. A similar case is W.W. Grainger which combines the multi-vendor catalog with a direct delivery channel and after-sales functionalities.

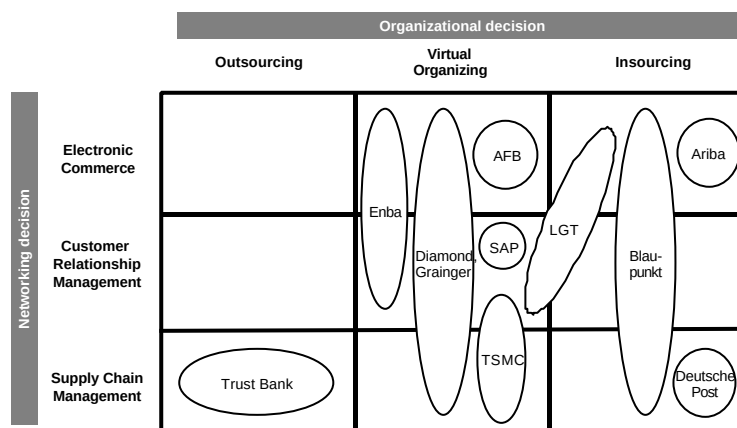


Figure 4-10: Interaction of Organization and Networking Strategies

The examples cited and feedback from interviews show that organization strategies are inherently of a long-term nature being that the cost of switching strategies are high. Networking strategies often have for their object the development of process solutions. An electronic catalog, for example, might be supplemented with a direct delivery channel (see the ETA case in Chap. 6) and, as a later stage, relationship management elements, such as virtual communities and FAQs, could be added.

4.5 Conclusions

Conceiving and implementing a Business Networking strategy requires top-management attention and decisions. It has been attempted in this Chapter to show that organization strategies link up with a company's competitive strategy and determine how competencies in a certain field should be organized. The processes behind each strategic decision are addressed by networking strategies that have different, but complementary, emphasis. Adopting a Business Networking perspective overcomes the problem of conceiving and implementing isolated solutions, a fallacy often observed in literature and practice.

Although the approaches proposed to formulate specific strategies are many and various and involve a certain amount of complexity, there are distinct benefits to be derived from a clear understanding of the interaction of strategies. First, it allows a distinct separation of organization and process issues. Second, it is helpful for planning the set-up and the evolution of a Business Networking solution. It would be possible, for instance, to start by implementing an electronic catalog and by enhancing it step by step with other networking features, such as shipment tracking, a discussion forum, auction functionalities and the like.

Due to the focus of this book being on processes, the following chapters will present a more detailed view of networking strategies. Chapter 5 concentrates on SCM, Chapter 6 on (sell-side) EC and SCM and Chapter 7 on CRM. Finally, both organization and networking strategies are also reflected in the method proposed for Business Networking which will provide concrete guidance as to when and how to adopt any of these strategies (cf. Chap. 14).