

14 Towards a Method for Business Networking

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14.1 Challenges of Making Business Networking Happen

14.1.1 Relevance of a Method for Business Networking

Translating the key success factors developed in Chapter 13 into implemented processes and applications represents a major challenge. In order to reach Business Networking goals, such as improved customer care or reduced inventories, business partners have to be convinced, business processes among the partners have to be agreed upon, and the strategic and process scenario has to be translated into enabling IT applications. Some of the specific questions which arose in the various cases discussed in previous chapters are:

- What is a proven sequence for proceeding in a Business Networking project? What are the major steps and what are suitable techniques for ensuring quick and successful implementation?
- Which networking scenario (cf. Chap. 3.3) and strategy (cf. Chap. 4) meets our goals? What is the return on investment of this solution?
- Are partners needed to realize the solution? How is the participation of future users ensured and how are partner relationships organized?
- What applications are chosen and how can they be integrated into existing system landscapes? What are the implications of the networking solution for the overall application and service architecture?

Methods have proven helpful to address these issues systematically, to take advantage of the experience gained in other projects, and to ensure the proper documentation of project activities. Although a variety of methods are available from consultants, system providers and in the literature, these only cover specific areas of Business Networking. There is still an obvious need to integrate all aspects, from choosing the right Business Networking strategy to the execution of local projects. This chapter gives an overview of the method that was developed between 1998 and 2000 in cooperation with the eight partner companies of CC iBN (cf. Chap. 1). An example for applying the method and integration into SAP's ASAP for APO 2.0a method is given in Chapter 15.

14.1.2 Existing Approaches and Requirements

In the first place, a method for Business Networking has to take into account the specifics of inter-business relationships. The main areas are all aspects associated with cooperation, the extended supply chain and new (electronic) services. Exist-

ing methods emerged primarily from the three areas shown in Table 14-1: cooperation management, process (re-)design, and implementation of Business Networking systems. However, these methods present shortcomings in three respects:

- They *focus on a specific level* of the Business Engineering model, i.e. they emphasize either the strategy, process or systems level. They do not provide guidance from the Business Networking strategy through to the implementation of a Business Networking system. For example, the methods for cooperation management offer valuable insights into setting up and managing co-operations, but do not address the selection, configuration, and implementation of systems supporting these relationships.
- They frequently have only a *low level of formalization*. Systematic methods require a meta model, a procedure model, techniques, a role model, as well as result documents. Many methods, especially in strategy development and co-operation management, include only a procedure model and some techniques. Structured documentation of the result is often lacking, despite the fact that these documents form an important input for system implementation.
- They do not provide *support for networking processes*. The networking processes described in previous chapters (cf. Chaps. 3.3.1 and 4.3) consist of supply chain management, customer relationship management and the like. Existing methods are either generalized (e.g. BPR methods) or focus on designing particular networking processes (e.g. supply chain methods)

The goal of this Chapter is to present an initial outline of a method for Business Networking. The following requirements can be noted:

- The method should provide support for cooperation-intensive projects in the design, measurement, and implementation of cooperation processes,
- It should include new business models (cf. Chap. 2), potentials of electronic processes (e.g. EC, SCM), as well as IT systems and eServices,
- It should include knowledge of existing methods and follow the design principles of method engineering [cf. Gutzwiller 1994].

Strengths	Weaknesses	Examples
Methods for Cooperation Management		
• Propose examples of models for establishing and managing cooperations • Often include political and social aspects	• Lack advice on specific types of cooperations and the role of IT • Inadequate specificity concerning business processes	[Doz/Hamel 1998], [Gomez-Casseres 1996], [Håkansson/Snehota 1995], [Chisholm 1998], [Sydow 1992]
Methods for Business Process (Re-)Design		
• Generalized and applicable to a variety of industries • Methods for supply chain management (SCM) include specific supply chain knowledge	• Inadequate extended supply chain focus and knowledge of cooperations • SCM methods neglect other processes, e.g. customer relationship processes	[Davenport 1993], see overview in [Hess/Brecht 1995] [Bowersox/Closs 1996, 523], [Christopher 1998, 48]
Methods for IS Implementation		
• Include vital specifics for implementing Business Networking systems (e.g. SCM systems, EC systems)	• Methods are vendor and/or tool-specific and are weak at the strategy and process levels	[SAP 1999b], [IMG 1998b], [Manugistics 1998], [i2 1997], [Synkra 1998]

Table 14-1: Overview of Existing Methods in Business Networking

14.1.3 Benefits of an Engineering Approach

Method engineering is an approach developed by Gutzwiller/Heym (cf. [Gutzwiller 1994], [Heym/Österle 1993]) to ensure the systematic development of methods. It has been used in the definition of various methods which are being used successfully in practice. Methods based on method engineering principles consist of five building blocks (see Figure 14-1):

- The *procedure model* contains the recommended sequence of all top-level activities. For example, a method for business process redesign may start with a preliminary analysis, continue with macro-design and finish with micro-design [cf. IMG 1997].
- *Techniques* describe how one or more results can be achieved. For example, a technique to measure supply chain performance includes the steps that have to be undertaken as well as various metrics, and provides hints on how to com-

plete result documents. Tools, such as the ARIS Toolset [cf. Scheer 1995], may support the application of techniques.

- *Result documents* are produced for the documentation of results and represent an important input for the specification of IT requirements. A result document for analyzing as-is processes, for example, would be a process network.
- *Roles* describe who is participating in a project at a certain stage. These are determined by the decisions which have to be taken and the knowledge required to complete the result documents.
- The *meta model* contains the main objects of design and the relationships between these objects. For example, a method for business process redesign would specify that processes produce outputs and consist of activities.

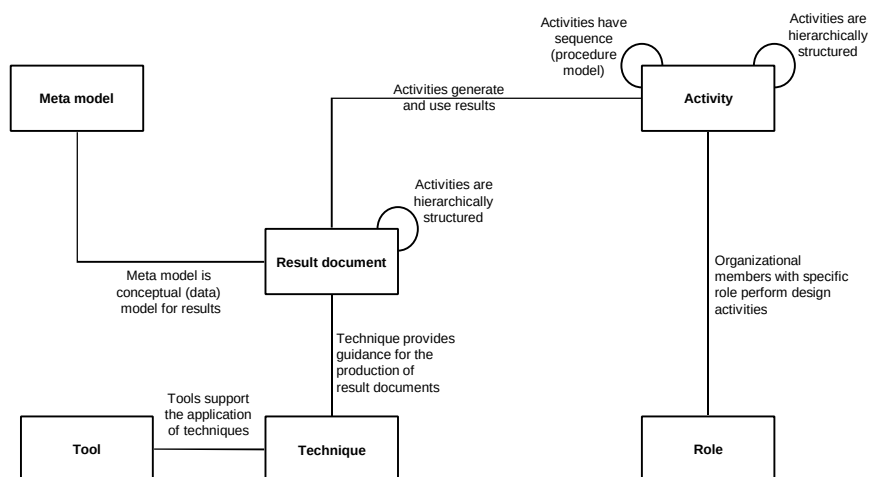


Figure 14-1: Elements of Method Engineering [cf. Gutzwiller 1994, 13]

Besides helping to structure a project, methods are used to facilitate training and (self-)learning. In providing a common language they improve communication between people with heterogeneous backgrounds. Another advantage is that formalization enables knowledge transfer, i.e. example result documents elaborated in one project can be used in another similar project. Experience has shown that these benefits are apt to lead to improvements in terms of hard (time, cost, quality) and soft (flexibility and knowledge) factors.

14.1.4 Focus and Procedure Model of the Method

Prior to developing and applying a method, clarity is required concerning the method's application area. Following the projects within CC iBN, the method focuses on cooperation projects. In the organization literature, cooperations are characterized as hybrids between markets and hierarchies [cf. Fleisch 2000, 90; Wigand et al. 1997]. They may be defined as a set of organizational units (OU) which perform coordinated activities and pursue common goals [cf. Grochla 1972, 3]. Based on these criteria, the method should be applicable in projects which:

- require the design of long-term relationships between two OUs,
- involve relationships with key customers and suppliers,
- include transactions with medium frequency and information breadth¹.

Attribute	Hierarchy	Cooperation	Market
Purpose	Central planning and control	Pursue common goals	Market transparency and dynamic pricing
Vertical integration	High – Production factors belong to one company	Medium – Production factors are jointly owned by partners	None – Decentralized ownership of production factors
Specificity of resources (e.g. IS)	High – Investment in resources are company-specific and not transferable to partners	Medium – Resources are partner-specific, but may be adapted to new partners with medium additional investments	Low – Resources are not specific and can be used all with all business partners
Trust required	Low	Medium - high	Low
Transactions	Long relationships – high in repetition and information breadth	Medium to long relationships – medium in repetition and information breadth	Short relationships – low in repetition and information breadth
Legal framework	Hierarchical control mechanisms and long-term contracts	Mutual engagement based on medium to long-term contracts	Individual contracts for each transaction

Table 14-2: Profile of Cooperations [cf. Alstyne 1997; Fleisch 2000, 92f]

The Business Networking method assumes that cooperations not only have common characteristics but are also similar in their implementation. This procedure

¹ The breadth of information describes the variety of exchanged information, e.g. not only transaction information, such as price, volume, article description, but also planning data and the like.

model was obtained in several partner projects and distinguishes the four top-level activities ‘analyze, design, plan/implement’ (see Figure 14-2):

- *Analysis of cooperation potentials.* First, an analysis is undertaken to determine the area(s) with the highest returns for Business Networking. Often, a quick preliminary study of 2-3 weeks is conducted for this purpose. The result of this phase is a cooperation concept which is presented to top management.
- *Design and evaluation of scenarios.* Based on a cooperation concept, the specific design alternatives are developed and evaluated. This phase is performed jointly with the cooperation partner and leads to a cooperation contract.
- *Planning and implementation of pilot projects.* Based on the cooperation contract, individual projects are carried out (e.g. process reengineering, EC or APS implementation). This phase links with the implementation methods of system vendors (e.g. SAP’s ASAP).
- *Continuation.* Depending on the success of the pilot projects (and other criteria) it will be decided how the pilot solution is to be continued. Possible decisions are (1) roll out the solution to other OUs, (2) discontinue the pilot, and/or (3) pursue other cooperation projects.

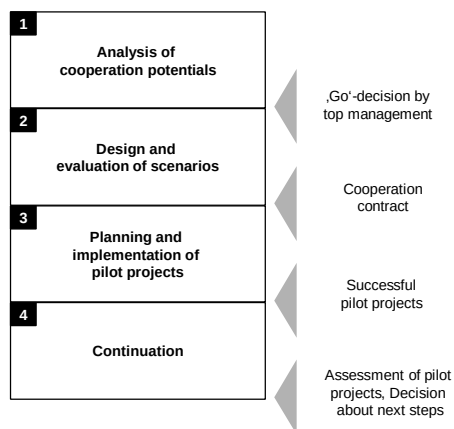


Figure 14-2: Procedure Model of the Business Networking Method

In order to provide some insight into the individual phases, two cases will be described. These cases are (1) the introduction of a buy-side electronic commerce system (cf. Chap. 4.3.1) at Deutsche Telekom, and (2) the design of a supply chain solution at Riverwood International (cf. Chap. 5).

14.2 Case I: eProcurement at Deutsche Telekom AG

14.2.1 Business Context of Deutsche Telekom AG

Deutsche Telekom AG (Telekom) is a formerly state-owned telecommunications company that was converted into a stock corporation on January 1, 1995 and went public in November 1996. In 1999, Telekom's revenues amounted to Euro 35.5 billion with a net income of Euro 1.9 billion. The major part of their revenue stems from the national full service telecommunication business with 172,000 employees (1999). This included 46.5 million telephone lines in the area of fixed lines and 13.3 million ISDN basic channels at the end of 1999, which is more ISDN lines than the USA and Japan together. Furthermore, Telekom is a major cellular provider with 9.1 million customers in his digital GSM-net, Europe's biggest online and Internet service provider and serves 17.8 million customers with its cable TV infrastructure [cf. DTAG 1999].

The transformation process from a vertically integrated monopolist toward a worldwide active competitive organization involved major changes in all dimensions. This has partly been enforced by deregulation and liberalization in the European telecommunications market since January 1, 1998. Another major driver is the convergence of the media, telecommunications and IT. These developments have significant implications on Telekom's future core competencies, existing process efficiencies as well as internal and external partner relationships. Starting with the new corporate strategy in 1998, the procurement of indirect materials was to be redesigned to reap the potentials of Business Networking.

14.2.2 Options for Organizing Procurement

As explained earlier (cf. Chap. 10), indirect goods encompass MRO goods, office materials and other C-parts. The electronic procurement process for these goods (eProcurement) has the following characteristics: goods are not planned, large numbers of what tend to be standardized, low-value products, many users, catalog-based purchases, and authorization processes [cf. Killen & Associates 1997].

In general, the procurement process for indirect products consists of a strategic and an operational component (see Figure 14-3). *Strategic procurement* includes customer and supplier management and deals with the selection, contracting and evaluation of partners, i.e. suppliers of indirect goods as well as content and catalog management services. Although this process has a strong knowledge component it relies on (operational) transaction data. For example, information about the performance of partners serves as a basis for negotiating prices as well as for

communicating win-win situations. *Operational procurement* consists of four elements (see Figure 14-3):

- The electronic product catalogs offered by MRO material suppliers,
- Desktop purchasing systems (DPS) permit end-users to purchase indirect goods directly via an Internet browser. They offer process and workflow functionality, system administration and the integration into ERP systems (cf. Chap. 10.3).
- Content and catalog management services. Content management merges multiple (supplier) catalogs and catalog management provides the platform for catalogs. They are shown separately in Figure 14-3 to emphasize the fact that these functionalities are evolving into individual business segments.
- Services for logistics and payment perform the settlement of transactions.

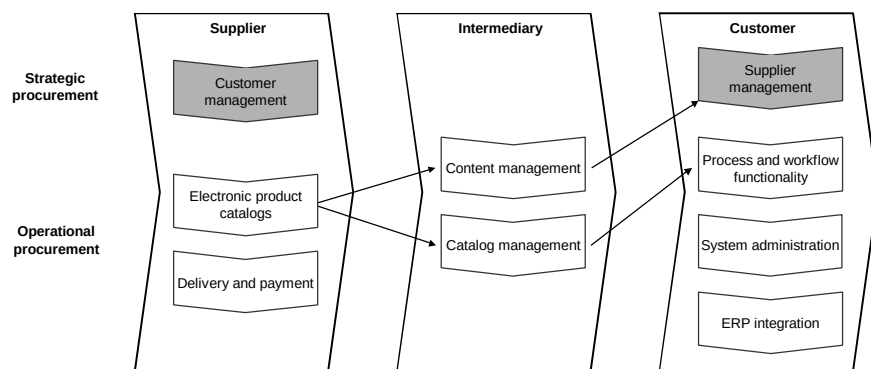


Figure 14-3: Elements of the eProcurement Process

Each of the eProcurement segments is an area where companies have to decide on how to establish or access the required resources. This involves strategic decisions as to which activities are insourced and which outsourced as well as where closer cooperation with partners is necessary. For example, catalog and content management could be outsourced, whereas relationships with suppliers (which offer the catalogs) will involve closer cooperation. Designing workflows and ERP integration is done internally. However, a company could also choose to adopt a more active strategy and offer content or catalog management services to other players as well.

14.2.3 Steps Undertaken at Deutsche Telekom

1. Analysis of Cooperation Potentials

Among the first steps in the Telekom project was the definition of potential areas for Business Networking. The main strategic options for initiating a Business Networking project were discussed in workshops on the basis of best practice examples. One of the areas which was examined in greater detail was the procurement process for indirect goods and services. This decision was based on a high-level scoring model derived from a market, resource and strategy analysis that included soft and hard factors. The analysis of networking potentials showed that eProcurement was an area with high potentials since the process was characterized by time-consuming individual, paper-based requests, many exceptions, and only little IT support. This situation led to a costly and non-transparent process, which offered a high potential for the introduction of an eProcurement solution.

2. Design and Evaluation of Scenarios

Based on the management decision to go ahead with eProcurement, a joint project team involving the IT and procurement departments was set up. A project portfolio showed that similar projects already existed within the Telekom group. After analyzing these projects and best practices from US companies [cf. Dolmetsch 1999], scenarios were detailed on how to organize eProcurement. The main options in respect of possible service providers for the partner-oriented part of the process were:

- *Procurement via an external service*, i.e. outsourcing of the eProcurement process to a service provider, such as GE TPN.
- *Establish an internal service*, i.e. an internal shared service for eProcurement which is offered to all Telekom subsidiaries.
- *Offer the service on the market*, i.e. extend the internal service to external business partners, thus establishing a new business segment.

Using various evaluation criteria, such as strategic fit, impact on strategic flexibility, knowledge and risk, initial investments, and operational benefits, a decision was made in favor of one or more feasible scenarios. Since a market survey did not yield any operative solution providers for catalog and content management in Germany, Telekom decided to establish an internal service.

Scenario design involves the specification of the process network for the selected scenario as well as the decision in respect of external partners. Discussions were held with software providers that led to several DPS and service provider solutions, two of which are being considered in more detail for pilot implementations. Based on some critical requirements, such as the customizing effort necessary to adapt the systems to the Telekom processes as well as integration into Telekom's

existing SAP R/2 systems, Commerce One was selected as provider of the eProcurement system.

3. Planning and Implementation of Pilot Projects

Following the decision in favor of a specific process and application scenario, detailed planning for the project is now ongoing. This includes the application architecture, standards for data and communication protocols, business bus (cf. Chap. 2.3.4) configuration etc., as well as activities to coordinate the implementation projects.

4. Continuation

Once an internal procurement service is established, this could be extended in a second step. One strategy already being discussed is to become an external eService provider for catalog and content management offered by a Telekom subsidiary (see Figure 14-4). This would provide new sources of revenue by exploiting the buying power, high number of transactions, brand name, critical mass and the IT infrastructure of Telekom. By enhancing the existing service, an external service can be established which continues Business Networking at Telekom.

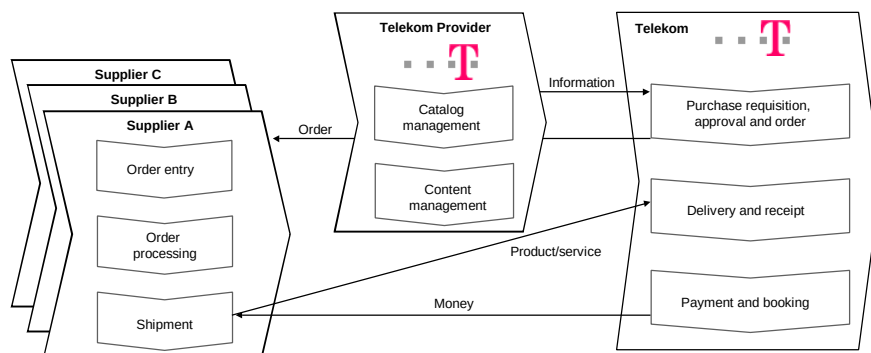


Figure 14-4: eProcurement Scenario at Deutsche Telekom

14.3 Case II: Supply Chain Management at Riverwood International

14.3.1 Supply Chain Scenario at Riverwood International

As explained in Chapter 5, Riverwood International is a leading provider of paperboard and packaging solutions. As part of a restructuring effort, the company

reengineered their supply chain applications landscape. With the migration from existing ERP legacy applications to an integrated SAP R/3 system, Riverwood's supply chain execution processes are supported more efficiently.

The introduction of SAP's advanced planning system (APS), known as advanced planner and optimizer (APO), now enables Riverwood to implement inter-company planning processes, such as vendor-managed inventory (VMI). VMI is a supply chain strategy that helps a company to collaborate with its customers to gather individual demand forecasts and synchronizes forecasts with local production plans to achieve greater flexibility in the planning and manufacturing process (cf. Chap. 4.3.2).

In an initial step, the company set up a VMI pilot project with Universal Packaging (Universal). The pilot project includes some five Riverwood plants and distribution centers, plus ten Universal locations in New England, and will be implemented for selected products at the end of the third quarter 1999.

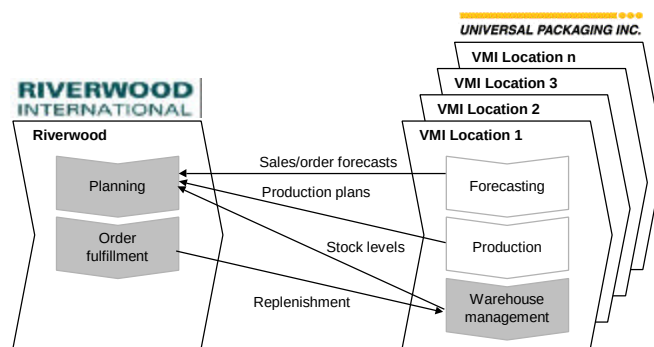


Figure 14-5: VMI between Riverwood and Universal

In order to obtain an accurate demand signal, Riverwood is willing to insource some stock management tasks that have traditionally been in the hands of Universal (see Figure 14-5). The warehouses at Universal's plants and distribution centers are automatically replenished by Riverwood. This means that product replenishment and purchase order creation will become the responsibility of Riverwood and will be based on actual and forecasted demand. Therefore, Riverwood has to be able to consider Universal inventory levels and demand forecasts during their planning process. The VMI scenario involves the following key activities:

- *Data assembly.* The primary data driver for VMI programs is warehouse withdrawal data from Universal's distribution centers (VMI locations).
- *Forecasting.* The primary forecasting effort is based on withdrawals from Universal's plants/distribution centers. Order forecasting is controlled by Riverwood and uses agreed-upon inventory targets and transportation cost objec-

tives. Universal is responsible for providing Riverwood with their production plans.

- *Order generation.* The Riverwood SAP R/3 system generates purchase orders which are driven by the replenishment pull on Universal's VMI locations. Since Riverwood controls the process, Universal receives priority service when shortages occur.
- *Order fulfillment:* Riverwood fills products primarily out of inventory (make-to-stock). However, in some cases a make-to-order fulfillment occurs.

The VMI scenario was conceived on the assumption that it would create a win-win situation between Riverwood and Universal. Benefits for both partners are shown in Table 14-3.

Benefits for Riverwood (Vendor)	Benefits for Universal (Customer)
Broader view of the inventories and supply chain activities gives Riverwood better information for planning inventory deployment and production.	Universal shifts the administrative burden for inventory replenishment of selected products (VMI products) at their local warehouse back to the vendor.
Riverwood achieves greater flexibility in the planning and manufacturing process.	Universal has lower supply chain costs through the outsourcing of the order management process; delayed transference of ownership means reduced working capital costs.
Riverwood can be more customer-specific in its planning and is able to plan at a higher level of detail.	Universal gets guaranteed fulfillment of demand and 'available-to-promise' service for VMI products.
Benefits for Both Parties	
Shorter lead times for the entire replenishment process.	
Overall improvement of asset utilization through a decrease in total inventory days of supply.	

Table 14-3: Benefits of VMI for Riverwood and Universal

14.3.2 Steps Undertaken at Riverwood International

1. Analysis of Cooperation Potentials

At Riverwood, supply chain management (SCM) revealed high potentials for Business Networking. After checking the networkability it became clear that

proper visibility of stock levels in all warehouse locations was an essential prerequisite for proceeding with the project. Riverwood set the focus on inventory management with downstream supply chain partners. As a customer requirement which had already been articulated, VMI was chosen from SCM best practices, such as collaborative planning, forecasting and replenishment (CPFR)).

Important elements of this first phase were a high-level sketch of as-is supply chain processes and the IS architecture, as well as the scoping of the project in terms of products, supply chain partners and geographical locations. This led to a first cooperation concept, which also included detailed and mutually agreed performance targets for the future cooperation between the pilot customer Universal and Riverwood. The first phase terminated with the forming of an inter-company team.

2. Design and Evaluation of Scenarios

Riverwood identified two macro-scenarios for realizing VMI, which are based upon two different architecture alternatives:

- Setting up and maintaining a VMI module of SAP's APO with interfaces to Riverwood's SAP R/3 ERP system and Universal's ERP legacy application.
- Usage of an existing VMI service provided by an external provider [cf. Durlacher 1999], such as IBM's continuous replenishment service [cf. IBM 1998].

In order to increase flexibility in tailoring VMI solutions to the requirements of specific customers and include Riverwood's very specific needs in the area of production planning and scheduling, Riverwood decided to set up their own VMI module.

3. Planning and Implementation of Pilot Projects

For this scenario a detailed picture of the process network was elaborated and its impact on resources and operations assessed. An example of the micro process design is shown in Figure 14-6. It distinguishes between VMI planning and VMI execution:

VMI planning starts with the weekly transfer of production plans and sales forecasts from Universal to Riverwood. This data is provided by Universal's legacy ERP system² and will be used by the demand planning module of Riverwood's APS to generate demand plans. After the release of the demand plan to the supply network planning module (SNP) the APS will consider constraints in the produc-

² In the current process design, there are no plans for an electronic link between Universal's ERP application and Riverwood's APS. Instead, Universal's VMI planner uses a Web gateway to the so-called 'demand planning book' within Riverwood's APS for manual data entry.

tion and distribution network³ and release production orders via the ERP to the MRP II planning system.

VMI execution starts with checking the availability (ATP) and detailed scheduling in the MRP II system. The order is then confirmed, trim optimization performed and the product produced. At the Universal site, goods issued are captured with a barcode reader. This information is used by Riverwood's ERP to track product withdrawal and calculate on-hand inventory at Universal's warehouse. If stocks should fall below a certain level, an order is automatically generated by Riverwood's ERP, the VMI products shipped and an invoice issued.

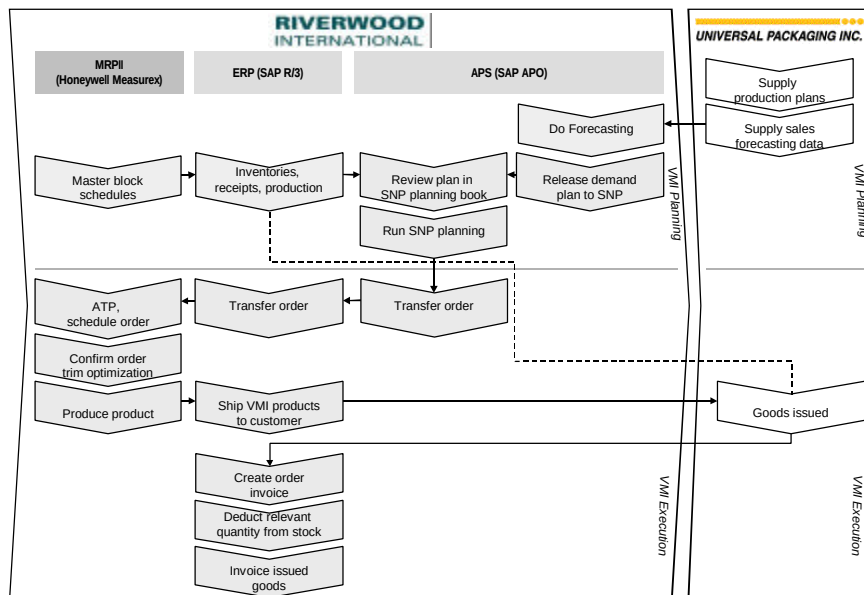


Figure 14-6: Process Design for VMI at Riverwood

To ensure a successful implementation of VMI, Riverwood designed a project portfolio which includes eight different local projects (see Table 14-4). Part A of the project portfolio deals with four internal Riverwood projects. Part B addresses customer-oriented projects and details the plan to support VMI customers with a service package that fully enables outsourcing of warehouse management for selected VMI products. This package will contain customized modules, which means that Riverwood will perform or coordinate four internal customer projects.

³ Examples are master block schedules for production capacity, inventory levels, transportation capacity and order lead times.

Project Portfolio Part A: Internal Riverwood Projects	
1.	One APS project for setting up and customizing the demand and supply network planning modules in the SAP APO application.
2.	One master data (MD) project for setting up the unidirectional transfer of ERP master data (e.g. product master, bill of material (BOM), customer locations, units of measurement) to the APS system.
3.	One core interface project to ensure the bilateral exchange of transactional data (orders) between the ERP and APS system. Order types include production, transportation, replenishment and consignment orders.
4.	One project for the development of the customer service package modules.
Project Portfolio Part B: Modules of the Customer Service Package	
1.	Business process redesign (BPR) module in order to enable customers to support Riverwood's VMI process standard.
2.	Infrastructure module which will include ready-to-run clients for forecast data entry in the demand planning book and barcode scanners to track warehouse withdrawal.
3.	Internet service provider (ISP) module to ensure data transmission from local VMI locations according to Riverwood's security standards.
4.	On-site training courses.

Table 14-4: Riverwood Project Portfolio

4. Continuation

Potential areas for enhancing Business Networking have been discussed to leverage Riverwood's ERP and APS investments. Riverwood is planning to become an eService provider, offering a collaborative planning eService scenario for the US paperboard industry and using portals, such as mySAP.com to customers as the platform for their service. This continuation of the VMI solution will start with the successful implementation of the VMI pilot.

14.4 Towards a Method for Business Networking

Both cases presented above reflect different scenarios in Business Networking. The Telekom case focused on buy-side EC, whereas the Riverwood case emphasized SCM. In the following chapter, the structure of a method will be developed which provides techniques that are applicable to all Business Networking strategies (cf. Chap. 4). The key features of the method are:

- The consistent usage of aspects relevant to cooperation at the strategy, process and IS levels (cf. Chap. 14.4.1), and

- The usage of method engineering which comprises a meta model, a role model, a procedure model and techniques (cf. Chaps. 14.4.2 to 14.4.4) plus various result documents (shown in method application in Chapter 15).

14.4.1 Design Areas of a Method for Business Networking

The advantage of the Business Networking method is that it can start from existing and established approaches in business engineering. As shown in the left columns of Figure 14-7, business engineering “structures the organization, data and function dimensions at the business strategy, process and information systems levels.” [Österle 1995, 29]. The method for Business Networking proposes three cooperation-specific enhancements:

- *Metrics.* Besides well-known process metrics, such as quality, time, cost, and flexibility, the method also includes measurements for cooperation processes. These build on the construct of networkability and include the efficiency of setting up relationships with a new OU, the implementation of an EDI link to a new OU, and the like.
- *Cooperation management.* Although Business Networking is IT-enabled, Business Networking projects are not primarily technical projects and require substantial cooperation management skills. This includes selecting and convincing business partners, generating trust, defining win-win situations and cooperation contracts, conflict management, initiating pilot projects, setting up project teams, cooperation controlling procedures etc.
- *Networking.* Business Networking builds on a new business model as outlined in Chapter 2.3.4. On the strategy level this includes new cooperation models, on the process level new forms of electronic coordination (e.g. multi-vendor product catalogs, supply chain scenarios), and on the systems level the use of eServices (cf. Chap. 2.3.5) and the design of the business bus.

The method’s systematic approach involves successively elaborating and refining the content of the three dimensions. In the case of cooperation management, for example, the structure of the initial cooperation concept is retained when drawing up the cooperation contract - additional details are merely added. The cooperation contract in turn serves as the basis for cooperation controlling. In the same way, initial assessments of networkability are successively refined into concrete and quantitative indicators.

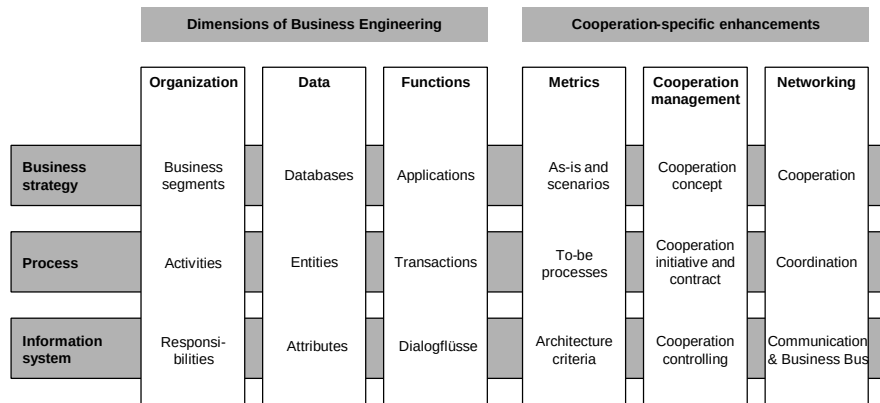


Figure 14-7: Dimensions of Business Engineering and Cooperation-specific Enhancements

14.4.2 Meta Model

According to [Brenner 1995, 11], a meta model is the conceptual data model of the results of a method and represents the constituent parts of the major design results of a method. Its purpose is to ensure consistency, providing a rapid overview of description and design areas and the terminology employed. The terms and their interrelationships are explained for each level (business strategy, process, IS). Figure 14-8 shows the meta model at the strategy level.

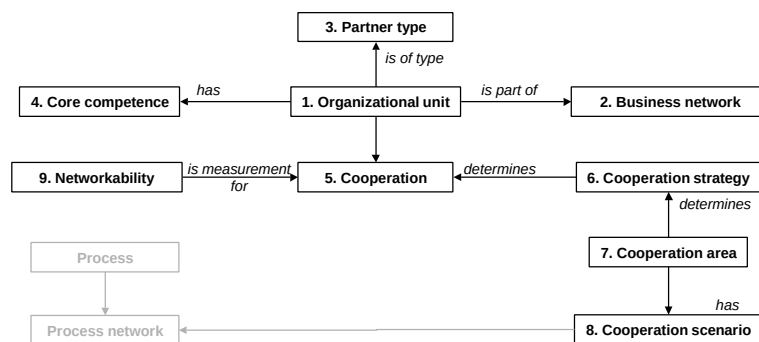


Figure 14-8: Meta Model at the Strategy Level

14.4.3 Role Model

The assignment of activities to ultimate units of responsibility is referred to as the role model. Roles are assumed by a business unit or individual employees, and involve tasks, competencies and responsibilities. The role model starts off by distinguishing the familiar roles of the people concerned: moderator, decision-maker, responsible and supporter.

In addition to inwardly oriented BPR methods, cooperation projects require a role model which includes the roles of the cooperation partners. The method assumes that an initiator has a cooperation idea and successively concretizes it (see Table 14-5). The first step towards concretization takes place in the initiator's own company with an assessment of the cooperation idea (or vision), along with its scope, benefits and consequences. The decision whether to go ahead with a concrete cooperation project in collaboration with one or more pilot partners is then made on the basis of this assessment. The experience systematically collected from the pilot partner project is the prerequisite for winning several partners and/or for a roll-out.

Roles at	Organizational Level		
Employee Level	Project initiator (PI)	Pilot partner (PP)	Partner (P)
Moderator (M)			
Decision maker (D)			
Responsible (R)			
Supporter (U)			

Table 14-5: Role model of the Business Networking Method

14.4.4 Procedure Model and Techniques

[Heinen 1991, 311] states that procedure models define the temporal, logical sequence of steps in a problem-solving process. The four phases of the Business Networking method (cf. Chap. 17.1.4) have already been used in the case studies. The goals and results of each phase are achieved by means of techniques which consist of a detailed procedure and result documents. The 11 techniques in total (see Figure 14-9) are explained below.

 Phase 1 Analysis of Cooperation Potentials	1.1 Selection of cooperation area and project scope
	1.2 As-is process and application architecture
	1.3 Cooperation scenarios and metrics
	1.4 Cooperation concept
Phase 2 Design and Evaluation of Scenarios	2.1 Selection of pilot partners
	2.2 Process analysis
	2.3 Design of application architecture
	2.4 Cooperation initiative
Phase 3 Planning and Implementation of Pilot Projects	3.1 Management of project portfolio
	(internal project)
Phase 4 Continuation	4.1 Operational cooperation management
	4.2 Continuation

Figure 14-9: Phases and Techniques of the Business Networking Method

Phase 1: Analysis of Cooperation Potentials

- 1.1 *Selection of cooperation area and project scope.* The areas in which cooperation is to take place are specified. The starting point is the cooperation goals and the cooperation road map which shows possible areas of cooperation. A performance analysis is carried out for assessment purposes, and the project initiator determines the relevant dimensions of the project and the composition of the project team.
- 1.2 *As-is process and application architecture.* The as-is business, process and application network is modeled, taking into account the defined project scope. As-is analysis is the prerequisite for the design and implementation of optimized structures and processes.
- 1.3 *Goals, potentials and architecture of the to-be process network.* Cooperation scenarios, consisting of the business, process and application network, are developed and evaluated according to the extent to which they meet the goals.
- 1.4 *Cooperation concept.* The main result document is the cooperation concept which is presented to the potential pilot partners at the beginning of the second phase (technique 1.2) and corresponds to a letter of intent. In order to achieve this result, the project initiator defines partner profiles, draws up a rough assessment of benefit categories (win-win situation) and selects the preferred type of partner.

Phase 2: Design and Evaluation of Scenarios

- 2.1 *Pilot partner selection.* The initiator selects the partners for the pilot project. The objective is to identify partners who have an interest in a quick win. The technique also includes team-building activities.
- 2.2 *Process analysis.* The focus is on defining the to-be process network. This involves selecting the strategic alignment and the basic processes. The objective is to develop the best suited process scenarios for which a standard software application already exists; i.e. the idea is not to develop a 'best case scenario' but one which can best be depicted in applications.
- 2.3 *Design of application architecture.* The definitive choice of applications and eServices is made for the best suited application / eService scenario. The scenario is analyzed to identify any shortcomings with regard to the processes modeled. This is followed by an analysis to determine how these gaps can be filled in terms of IS.
- 2.4 *Cooperation initiative.* This technique completes the cooperation contract in respect of common goals, obligations and resource deployment. The objective is to bring together the results obtained prior to implementation and, in particular, to review cost and benefit elements.

Phase 3: Planning and Implementation of Pilot Projects

- 3.1 *Management of the project portfolio.* The inter-organizational activities required to achieve goals in respect of deadlines, costs and target fulfillment levels have to be coordinated. The methodological support for project realization is not part of the Business Networking method; this is where the specific approaches of the project initiator, the pilot partners and the software manufacturer (e.g. ASAP for APO) come in.

(Execution of internal partner projects). Executes defined projects and monitors the delivery of results. It is not an integral element of the Business Networking method.

Phase 4: Continuation

- 4.1 *Establish operational cooperation management.* The objective is ensure that the cooperation runs smoothly and that the cooperation goals are actually fulfilled.
- 4.2 *Continuation decision.* A final review of the pilot project is performed and the success of the project communicated to the decision-makers. In addition, a 'business case' is drawn up to gain (roll out) partners and the success of the cooperation is marketed at the inter-organizational level. Finally, a decision is made on how to proceed, i.e. roll-out to other partners or follow on with a new cooperation project.

Although the method proposes an ideal sequence of activities, we are aware that certain projects require modifications. For this reason, each technique contains a clear description of the required inputs. This permits lower starting points, parallel activities, cycles and the like.

14.5 Conclusions and Outlook

Due to their specific characteristics, Business Networking or cooperation projects require additional steps and competencies in project work and procedure. Although a variety of methods are available, these methods present significant shortcomings since they either focus only on strategic aspects, do not include knowledge of networking processes, or else provide only a low level of formalization. The advantages of a method for Business Networking are that it:

- Provides an *integrative framework* that includes all activities relevant to analyzing, designing, planning/implementing and continuing Business Networking projects. It offers a structured path from (strategic) analysis and conceptualization to implementation. Strengths of existing methods can be integrated.
- Facilitates *inter-organizational project management* by providing a common procedure model, using understandable techniques and result documents as well as role descriptions. This helps to structure a shared project plan, to determine which tasks have to be performed and to decide who should be involved at which stage of the project. Problems arising from different corporate cultures, languages and systems can be avoided.
- Addresses *critical success factors* relevant to Business Networking. As Chapter 13 has shown, the success of Business Networking projects is often determined by non-technical, i.e. organizational and political, factors. Examples are creating win-win situations, homogenization of master data and the like.
- Supports *knowledge management* by transferring knowledge relating to prior and ongoing projects. It includes success factors and best practices as well as critical configuration and implementation know-how. Besides helping to provide direct benefits for project management, the method improves employee training. In doing so, it increases the flexibility and responsiveness of an organization to cope with future networking challenges.
- Helps to improve a company's *networkability*. Networkability is an integral part of the method and is addressed in each phase, i.e. within potentials analysis, scenario design, and the planning/implementation phase.

As described in Chapter 2, the information age presents a variety of challenges to management. The implications and opportunities are dynamic and the method for

Business Networking represents a solid foundation for tackling these challenges in a systematic way. We see two areas in which the method can be extended:

- *Interaction with knowledge management.* The increasing volume of electronic transactions handled via Business Networking systems presents an important source for extracting information about customers. The integration of transaction-oriented and relationship-oriented Business Networking systems will provide new perspectives for creating tailored and efficient customer service.
- *Development of eServices.* Electronic services (cf. Chap. 2.3.5) will be an important part of Business Networking in the future. How eServices can be developed or how they can be integrated at a business, process and information systems level are questions to be addressed in further development of the method.
- *Electronic marketplaces.* In comparison with long-term supply chain projects, cooperation with business partners by means of eMarkets is frequently of a short-term nature. Extending the method to include techniques which also cover systems of this kind represents another direction in which the method might be developed.

