

5 Business Networking Lessons Learned: Supply Chain Management at Riverwood International

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5.1 Business Networking Is Customer and Supplier Integration

In 1996 the management of Riverwood International, an integrated paperboard and packaging supplier with head quarters in Atlanta, GA, USA, set out to create a new level of customer service within the industry. Riverwood wanted to enhance its competitive position by improving the flow of information to and from the customer. This information flow will be determined by the uniqueness of the commercial relationships between each customer, and in some cases each 'ship to' location of each customer. Riverwood has developed capabilities that enable small customers to process orders, inquire into order status, and monitor global inventory position with direct access to Riverwood's information system via an Internet based solution. In the case of large customers, Riverwood is implementing new global materials management strategies, negotiated delivery and production schedules and shared sales and purchasing forecasts. Implementing these strategies, Riverwood and their customers will realize the benefits in the areas of inventory reductions, lower process costs, and greater flexibility for retail market response.¹

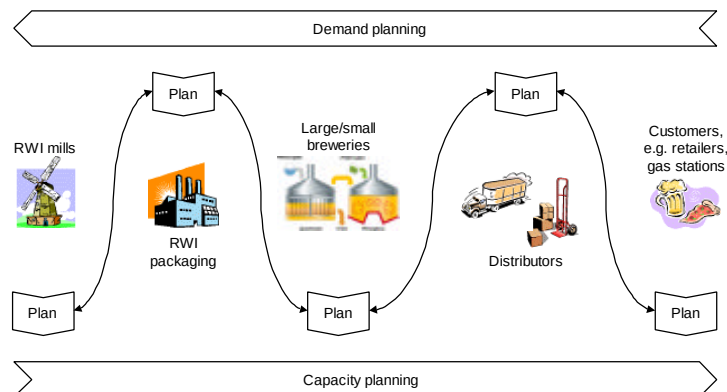


Figure 5-1: Supply Chain of Riverwood

Riverwood found itself primarily confronted with the following questions: How to approach the customers and how to arrive at a true win-win situation? What cooperative strategies should be considered? How to calculate the return on investment (ROI) for this inter-business project? What are the critical success factors for this project? What activities will have to be included in the project timetable? Which business processes implement the strategies? What organizational changes will be

¹ For further discussion of the Riverwood International case see Chap. 14.3.

necessary? Which information systems and standards should be used? Which services could be used and/or provided?

Potential benefit of cooperation strategy	Stock turn Stock days of supply Returns Age of existing inventory Obsolete inventory	Labor hours to plan Degree of rework Number of "emergencies" Scheduling errors System availability	Capacity utilization Inventory accuracy Packaging machine-units per day per style	Promotion reaction time Volume reaction time
Consignment inventory	0	0	0	0
Vendor managed inventory	0	++	+	+
Automated vendor replenishment	0	++	+	0
Global inventory visibility	++	++	++	++
Backflushing from distributor plan	0	0	0	0
Collaborative production planning	+	++	0	0

++ High + Middle 0 Low

Table 5-1: Supply Chain Potentials at Riverwood

Today, executives can pick up any management magazine and read about the latest business and information technology trends in the area of inter-business integration, supply chain management, electronic commerce, outsourcing, etc. and about the overwhelming benefits for the modern business. They read the advertisements of consulting firms who are building core competencies in the area of Business Networking, and full-page spreads from new and well-known names in software industry who are bringing innovative software components for business partner integration onto the market. Exactly how this potential can be harnessed remains largely unclear, however, Business Networking aims to provide the answers.

Business Networking encompasses the professional design and maintenance of the link between business partners and constitutes the sine qua non for the implementation of a large number of effective strategies for the future. The same principles of Business Networking apply when it comes to translating strategies into functional processes and information systems, irrespective of whether we are dealing with supply chain integration, outsourcing, globalization, electronic commerce in sales or purchasing.

5.2 Establishing the Business Networking Vision

The first question, which Riverwood asked itself, was: who are my business partners today and who will they be tomorrow? From the huge number of business partners comprising customers, suppliers, authorities and the general public, the

management selected those who were the most important: in the case of Riverwood *all* customers. The next question was: what are the forecasting, planning, purchasing, replenishment and payment processes of these customers going to look like tomorrow? Riverwood's sales personnel sat down with the customer's staff or managers and drew up profiles for each and every customer. Customer profiles record the current status and target developments in the customer's business and information management. Examples are organization structure, cooperation strategies, classifications, information on business processes and exceptions as well as the architecture of the relevant information systems.

Customer profiles provide on the one hand a systematic and largely objective overview of the current partner situation and thus the basis for wide-area integration; on the other, they represent for sales staff a welcome means of enhancing customer loyalty and strengthening the relationship with the customer. Business Networking visions can be derived from the general business trends and the specific statements of the customer profiles. In Riverwood's case the vision was: every customer is important. Every customer, whether they are an international beverage producer or a micro-brewery with three employees, should be given a specially customized link. The example of Riverwood follows the generally observable business trend towards mass customization: it is not only the products which are individualized but also the services associated with the product, the customer relationship. "Riverwood has always provided high quality products and services. Traditionally, these services focused on transportation and warehousing. In the future, these services will provide integration between end buyers, manufacturers, and suppliers. The boundaries that have traditionally restricted cooperation have been eliminated, now all that remains is the ability of management to properly utilize these capabilities."

5.3 Implementing the Business Networking Vision

A large number of strategies with differing design focus were open to Riverwood (cf. [Fine 1998], [Austin et al. 1997]):

- Strategies leading to more efficient and more effective Business Network structures: How do I reduce the number of suppliers through one additional intermediary? How do I outsource the entire transport logistics including finishing to an external service provider?
- Strategies which aim to improve the quality of a large number of major entrepreneurial decisions by integrating inter-business information: How do I convince my customers to forward their production schedules, delivery schedules or point of sales data to me? How can I initiate an inter-business forecasting system and thus minimize the number of demand signals? How can I make relevant information available to my partners online?

- Strategies which make it possible to create individual products and services: How must product components be designed in order to ensure that they can be assembled to form a product specifically geared to the requirements of an individual customer at a later date? What information technology support do I need in order to be able to offer every customer individual after-sales service?
- Strategies that reduce the time and effort necessary for coordinating business partners Who will manage my raw materials warehouse? At what point in time does ownership and thus product risk pass to my customer? When can I dispense with order acknowledgements, when can I use a clearing method to settle accounts?

On the basis of the Business Networking vision and the partner profiles, management then decides to implement the most effective strategies in the catalog. The effectiveness of a cooperation strategy largely depends on its acceptance among the business partners involved.

5.4 As the Tide Comes In All Boats Go Up

How do I create this acceptance? How does Business Networking benefit the businesses involved? Business Networking is put in place in order to improve the return on investment of new and existing resources. The costs and benefits of Business Networking are described in terms of the effectiveness and efficiency of the new form of inter-business cooperation. With Business Networking, *efficiency* applies more to the company internal effects and can typically be measured quantitatively. Frequently used metrics here are internal costs (production costs, warranty costs, costs generated by returned products), the costs of administrative processes (e.g. costs of procurement) and the development of inventories (cash-to-cash cycle time, inventory days of supply, asset turns). *Effectiveness* describes effects directed outward towards partners. In some cases, these can only be determined qualitatively. The effectiveness of a solution is described in terms of delivery quality metrics (delivery performance, order fulfillment performance, perfect order fulfillment) and flexibility (supply chain response time, production flexibility).

For Riverwood, one of the greatest challenges lays in the lack of information on customer processes and customer feedback on Riverwood's products and services. Riverwood's service processes were largely manual and reactive and thus costly and slow. Information on production processes was very scant. Riverwood's service personnel received no support in achieving sustainable customer loyalty and consequently morale sank. By linking Riverwood's goals, strategies, processes and information systems to those of their customers, Riverwood plans to (a) reduce the order to cash cycle by 60 days, (b) go from 8 weeks of finished goods to 2.5 weeks, (c) reduce cost to serve by 50%, (d) cut order fulfillment process

cycle times from 14 days to 2 hours, (e) increase the accuracy of invoices sent out, (f) achieve a minimum customer service rate of 95% and (g) raise the morale of the workforce.

How does Riverwood convince its business partners of its Business Networking vision? Business Networking questions always deal with $n:m$ relationships, in other words, relationships between n suppliers and m customers. Thus Riverwood sells its products and services, for example, to some 2000 customers and each of these customers purchases from between 5 and 20 packaging manufacturers. In order to simplify handling, it is frequently only the individual 1:1 relationships which are analyzed and managed in today's inter-business projects. As a result, the interdependence between these 1:1 relationships is lost and solutions that need a critical mass (cf. Chap. 2.2.3) of business partners are not considered. In order to convince the critical mass of partners in favor of a new Business Networking solution, a *Win-Win situation* must be created and communicated. Win-Win situations are those in which the ROI of each partner is improved by the new networking solution (cf. Chap. 13.3.3)

5.5 Shaping Competitive Advantage

From its customer profiles and the selected mix of cooperation strategies in the area of warehouse management and the inter-business integration of information, Riverwood evolved standard services which it would like to offer its customers in future. Such standard services are management and IT based. Envisaged management services for customers include, e.g., advanced shipping notices, order acknowledgements, 7*24-hour ordering facility, 7*24-hour current status information from production and logistics; envisaged IT services range from simple Web solutions developed and provided by Riverwood, including hardware and maintenance and allowing direct access to Riverwood's order management system, to the integration of the customer's ERP systems with Riverwood's ERP systems. For each customer, Riverwood composes an individual package from these standard services for customer integration. It is only through the individual combination of a few standard services that the costs and complexity of individual partner integration can be mastered. Individually programmed links at the information system level lead to a blind alley.

The new services help coordinate Riverwood's business processes with those of its customers. As a result, new planning data from key account customers in some cases automatically initiate Riverwood's planning processes, inventory movements in the warehouses run by Riverwood on customer premises automatically affect Riverwood's production and logistics. The business processes involved must be designed so that they coordinate themselves under normal circumstances. The managers of coordinating processes have to agree threshold values, such as

minimum inventory levels in the warehouses, at the outset. In addition, they have to arrive at joint decisions in respect of the applicable microprocesses, such as the correct way to process inventory or the storage method to be applied. Management attention should only be required in exceptional cases. There are two major questions to be considered here:

- Who is responsible for coordination in exceptional cases? In the case of Riverwood and its customers it is the process managers of the self-coordinating processes, i.e. Riverwood's vice president sales and the vice president of purchasing for the customer concerned. They and their staff meet not only to deal with exceptional cases but also get together twice a year to further develop their processes and coordination mechanisms as well as to nurture their cooperation culture.
- What procedure is to be followed in exceptional circumstances? An intensive integration of customers and suppliers may well mean heavy dependence on the part of both partners. What happens if one side fails to provide an agreed coordination service? If, for example, a supplier receives an incorrect production schedule from its customer or is not informed that the vendor managed inventory has already dropped below the minimum level this may lead to short deliveries and consequently to lost production. Exceptional arrangements clarify the question of who bears the costs in such cases and whether penalties are to be applied. Together with its partners, Riverwood developed a comprehensive set of rules governing obligatory microprocesses, threshold values and exceptions.

5.6 Creating the Coordination Backbone

The architecture of information systems follows the architecture of the business. This also applies in the case of Business Networking. During the eighties and nineties, software manufacturers followed the call of business for data integration to be as comprehensive as possible, first and foremost SAP with its products R/2 and R/3. With the transformation of the business model towards greater specialization and decentralized structures, the once highly integrated packages are increasingly being distributed or supplemented by special software components. This distribution or development of new components is occurring where the market demands it: in the process areas assigned to Business Networking. Highly regarded manufacturers of these new components for integrating business partners are i2, Manugistics and SAP in the area of advanced planning systems (cf. Chap. 9) and Ariba, Commerce One, Netscape and SAP in the area of electronic commerce purchasing systems (cf. Chap. 10).

These new software components support the coordination of inter-business processes and permit the inter-business integration of data, which are accessed by the

cooperating business partners. They represent connecting elements with special functionality between the business partners' ERP systems. To support its inter-business processes to the customer, Riverwood installed the APO planning system from SAP and integrated it firstly with its own R/3 system, secondly with the relevant systems of its customers and thirdly with the Web solution. The *integration* with the internal and external information systems is the greatest challenge for the architecture and implementation of Business Networking systems. The *information system standards* used play a decisive role here: the wrong standards will lead to a blind alley. Active management of these information system standards ensures the flexibility and integrity of a Business Networking solution (cf. Chap. 8).

Amongst others, Riverwood would like to give its customers the possibility of calling up the current order status at any point in time. That means that Riverwood must first be in possession of this information. This simple example clearly demonstrates that a properly functioning internal organization and the internal integration of information systems are prerequisites for Business Networking.

5.7 Becoming Part of the Business Networking Infrastructure

In order to be able to implement its cooperation strategy Riverwood must depend on the services of trust centers, e-cash providers, security providers, network providers, master data providers, etc. These services are standardized and are increasingly becoming an inherent part of the infrastructure of the business world in the information age (cf. [Tapscott 1995], [Barling/Stark 1998]). Riverwood's goal is to outsource all services that do not belong to its core business. The smooth integration of the providers of these infrastructure services is dependent on well-known interfaces and service levels. The sum of all providers with whom Riverwood could integrate is referred to as the 'business bus' (cf. Chap. 2.3.4). Riverwood regularly follows developments in the Business Bus and thus ensures that innovations in the relevant service market are used to the corporation's advantage. The spectrum of services offered by the Business Bus is continually increasing. At the same time the services are increasingly taking on more business functionality (payroll services, etc.).

The management of Riverwood found that "in the future Business Networking will be a primary product of Riverwood. We are creating customer supply chain integration centers to ensure that each participant in the supply chain derives benefit from the relationship."

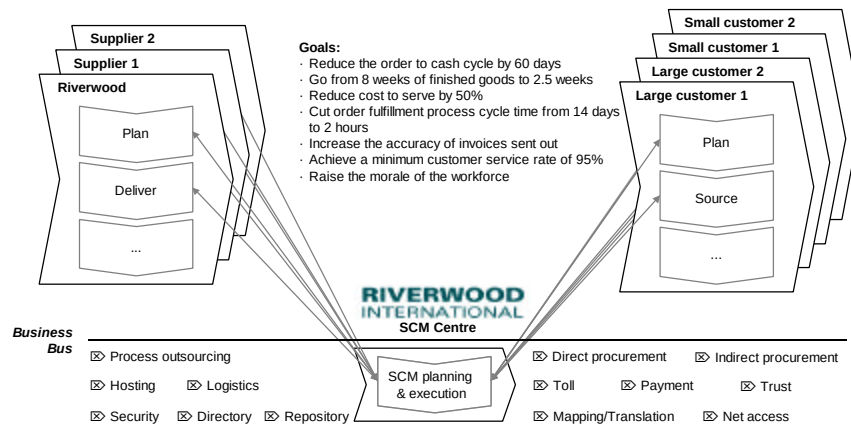


Figure 5-2: Riverwood-Business Networking Model

Business Networking describes the far-reaching capabilities of a corporation to position itself and hold its ground in a network of other corporations and to design the strategies, processes and information systems so vital to any corporation in order to communicate with the outside world.

The St. Gallen business model (cf. [Bleicher 1995], [Ulrich 1984]) is based on the conception of a business as a living social system, and over the years it has drawn on many ideas from the fields of biology, cognitive science, ecology and evolutionary theory. If we view a business as a living social system which strives to survive within its environment, i.e. its business network, then the significance of ‘networkability’ can be clearly illustrated: the ability to survive, to learn and to think will always depend on the business’s communication capability.

With applying the core lessons of Business Networking Riverwood is achieving networkability. Those core lessons are:

- Customer and supplier integration is an entrepreneurial challenge.
- Partner profiles and processes help defining the Business Networking vision.
- A mix of cooperation strategies implements the Business Networking vision.
- Create and communicate a win-win situation.
- Business Networking creates USP characteristics and changes business strategies.
- New information systems and standards support the integration of business partners.
- New Business Networking services emerge and transform the business world.

