The International Physical Supply Chain

Up until recently, companies did not think in terms of supply chains, but viewed themselves and their trading partners as independent islands. Sellers at times struggled to keep up with demand, while buyers purchased goods for which they could pay, barter or obtain credit. Economic and competitive pressures eventually forced companies to think in terms of supply chains for the production and delivery of goods. For this reason the material or physical supply chain was born.

A typical trade supply chain includes the following components:

<table>
<thead>
<tr>
<th>Forecasting</th>
<th>Procurement</th>
<th>Production</th>
<th>Shipment</th>
<th>Receipt and Reconciliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource planning</td>
<td>Purchase order</td>
<td>Scheduling</td>
<td>Transportation</td>
<td>Delivery</td>
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<tr>
<td>Vendor selection</td>
<td>Negotiation</td>
<td>Manufacturing</td>
<td>Distribution</td>
<td>Confirmation</td>
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<tr>
<td>Inventory control</td>
<td>Negotiation</td>
<td>Quality control</td>
<td>Compliance</td>
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<td>Inspection</td>
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<td>Tracking</td>
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<td>Shipping documents</td>
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</tbody>
</table>

How well you collaboratively manage the process of moving goods from sourcing through point of consumption in a large part determines success in the marketplace. To achieve optimal physical supply chain management, collaboration is key.

A well thought out and well-managed physical supply chain provides control and an edge in your competitive, ever-changing industry. You reap the benefits of:

- Just-in-time inventory control
- Credit risk management
- High-quality customer service and vendor relations
- Reduced costs due to bulk scheduling of transportation and distribution
- Quality and inspection control
- Fewer returns
The Financial Trade Supply Chain

The financial supply chain parallels the physical supply chain and represents all transaction activities related to cash flow, from the buyer’s initial order through reconciliation and payment to the seller.

Until recently, the financial supply chain went virtually unnoticed. The amount of time required to process transactions was unthinkably long because the manufacturing supply chain itself was fraught with inefficiencies. Nonetheless, companies prospered, in part due to the lack of global competition and, in part, because all domestic companies were saddled with the same poor quality demand forecasting limitations, inefficient distribution and lack of supply chain visibility. They used the same strategy to compensate for these problems and hedge against uncertain demand, excess inventory, excess capacity and surplus labor. Since the cost of capital was low, reserve positions were routinely used. In other words, companies relied on float – a lot of it. Not only was this “excess” strategy commonplace, it was considered smart management practice; materials and resources were considered attractive assets that “pumped up” the balance sheet.

Today the typical financial supply chain remains somewhat fragmented, complex and not integrated with the physical supply chain. Goods move faster than money, and disparate parties are involved. Moreover, even in today’s world, the financial supply chain is partially composed of paper-based processes. To stay competitive, “just-in-time” working capital management should be your goal. Financial supply chain solutions enable CFOs and treasury managers to accurately manage their receivables or payables, forecast their company’s financial future and reduce their working capital needs.

A typical financial supply chain for importers or exporters might include the following steps:

<table>
<thead>
<tr>
<th>Procurement</th>
<th>Risk Mitigation</th>
<th>Fulfillment</th>
<th>Payment Decision</th>
<th>Cash Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase order</td>
<td>Authentication</td>
<td>Invoice/documents</td>
<td>Data matching</td>
<td>Money movement</td>
</tr>
<tr>
<td>Negotiation</td>
<td>Validation</td>
<td>Proof of delivery</td>
<td>Discrepancy management</td>
<td>Reconciliation</td>
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<tr>
<td></td>
<td>Payment assurance</td>
<td>Insurance</td>
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<tr>
<td></td>
<td>Credit check</td>
<td>Financing</td>
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<td></td>
<td>Financing</td>
<td>Exposure</td>
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</tr>
</tbody>
</table>

By optimizing their financial supply chains, companies can:

- Reduce their working capital needs by using better inventory control and cash flow management, potentially representing significant annual savings
- Lower financing rates on required working capital through more effective management of their current asset position
- Reduce the costs of risk management through greater cash flow predictability
- Gain early warning into problems with any document in a commercial trade transaction that will likely cause payment to be delayed, then take corrective action to reconcile exceptions
- Improve vendor relations for buyers
- Reduce Days Sales Outstandings (DSO) and increase cash flow predictability for sellers
- Realize prior investment in automating financing systems
Forging a Strong Link

Financial transactions occur in a rich context of supply chain activities. To effectively integrate the physical and financial supply chains and forge strong links between them, the first step lies in determining their intersections in your company. Fact-based, information-based integration is the key.

CFOs and treasury managers stand to benefit enormously from optimizing their company’s financial supply chain, and integrating it effectively with their material supply chain. Traditionally, they were expected to make accurate financial predictions, but were not directly involved with managing either supply chain. An effective linkage solution should synchronize the physical and financial supply chains, and thereby provide CFOs and treasury managers with a tool that enables them to:

- Gain trans-supply chain visibility that spans all trading partners
- Make accurate forecasts based on real-time receivables knowledge
- Eliminate expensive, non-productive float
- Secure more favorable terms for the working capital that is required, as the granularity and depths of financial information would allow lenders to assess the real composition and quality of receivables

In addition to significant reductions in DSO for sellers and excess cash balances for buyers, optimizing the financial supply chain and integrating it with the physical supply chain provides for faster payment processing through the accelerated flow of information to external logistics organizations and other third parties. In addition, having access to financial and physical supply chain information creates new customer relations channels that enable companies to resolve payment issues through fact-based negotiations.

To achieve integrated physical and financial supply chain management, the answer is technology, of course, but most importantly, understanding your supply chain flow thoroughly and choosing the optimum solution for your business. A technology solution is strongly recommended for any enterprise that wishes to accelerate its cash flow, collaborate more effectively with trading partners, and seize its financial destiny.

The lack of synchronization between the financial supply chain and the material supply chain creates excess working capital, or non-productive float, which is a hedge against the lack of visibility into the supply chain itself. A better way is to optimize the financial supply chain, integrate it with the material supply chain and substitute information for float.

Lack of integration between the two supply chains may result in:

<table>
<thead>
<tr>
<th>Buyers</th>
<th>Sellers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excess cash balances</td>
<td>Excess DSO</td>
</tr>
<tr>
<td>Inaccurate cash flow forecasts</td>
<td>Inadequate cash balances</td>
</tr>
<tr>
<td>Inability to take advantage of discount terms</td>
<td>Inaccurate sales forecasts</td>
</tr>
<tr>
<td>Inability to optimize use of credit capacity</td>
<td>Increased borrowing costs</td>
</tr>
</tbody>
</table>
Strategies for Effective Supply Chain Management

As a first step, assess enterprise readiness by forming a team. Get the right people involved – limit and choose your supply chain “crew” wisely. Key partners might include:

- Purchasing departments
- Manufacturing departments
- Distribution/fulfillment centers
- Quality assurance/control departments
- CFOs, treasury and trade managers
- Import or export managers
- Finance departments
- Credit managers
- Your bank
- Sales managers
- Transporters, traffic departments
- Management Information Systems managers

Your team should help the departments involved to understand the hidden costs of current supply chain inefficiencies and exceptions, and calculate the anticipated savings. Solicit participation of key trading partners and involve them in the planning phase. Schedule regular briefings to establish their ownership in the new approach. Their support for optimizing your supply chain will help secure the cooperation of all trading partners.

Prior to implementation, educate all trading partners of the necessity of taking this approach and the benefits of an optimized, integrated physical and financial supply chain. Educate all partners on what they can do to make the system work most effectively. If necessary, let the numbers speak. Demonstrate the degree to which the physical and financial supply chains are out of sync, and the level of resulting inaccuracies in accounting and other processes. Once the team has arrived at a clear understanding of your existing supply chain flows, it’s time to look at the wide range of supply chain management technology available.

Rate suppliers of technology solutions on their ability to understand the unique issues and problems that customers pose, as well as the vendor’s ability to provide non-invasive and highly interoperable systems. In addition, when searching for an outsourced solution, seek providers that are neutral and will earn the trust of all parties in the supply chain. Identify vendors who are financially solvent, possess a proven track record, and will be around for the long haul. Most importantly, seek solutions that are open, generic and re-usable.

Your bank may already represent a significant part of your financial supply chain, and if you deal in letters of credit or collections for international business, your bank may already be involved in your physical supply chain as well. Bank of America is developing solutions to assist you in optimizing and linking your supply chains, with purchase order processing solutions, invoice presentment and payment, document presentation and reporting capabilities that together streamline and automate your entire transaction process.

You will find that Bank of America can provide greater payment method flexibility than non-bank solutions providers. Our scalable solution supports multiple payment methods and does not require participants to enroll in a proprietary data network. Importantly, the Bank of America solution will support both new and old methods, enabling a more seamless transition between the two.

Whatever your industry challenges, whatever the size of your business, whatever your individual supply chain management solution might be or become, flexibility and scalability should be key factors during your analysis and planning.
What the Future Holds

Technology for optimizing supply chains will pick up where traditional automation and enterprise software leave off: within a company’s four walls. In the future, we’ll see optimization technology performing the following core functions across the entire supply chain:

- Extracting data non-invasively by normalizing information at the metadata level; in doing so, individual trading partners need not alter the structure or format of their data
- Providing predictive value as to what problems will likely lead to delays in getting paid, such as inconsistent field formats within POs, invoices, and other documents, mismatched quantities, or other discrepancies
- Tracking financial documents from order entry through reconciliation, including change orders, returns and exceptions
- Providing proactive intelligence and collaboration across business partners including logistics and financial partners
- Operating in real-time or near real-time to stay closely synchronized with the physical supply chain

Over the past few years, companies have already begun to re-engineer their financial supply chains. In this past decade, ERP systems revolutionized the financial information workflow across global companies and new Internet technology continues to pave the way for further integration. Today the vision of achieving central efficiencies and control is a reality in many organizations, and this vision includes the company’s bank.

Companies are also re-thinking and minimizing the number of their banking relationships, selecting to partner with strategic institutions, particularly those who maintain a global presence combined with local expertise, like Bank of America.

Through its trade services, Bank of America has years of experience in providing “rules-based” order-to-pay reconciliation around letter of credit transactions. We have recently developed a similar automated rules-based reconciliation process for open account payments. This Purchase Order-to-Pay service is designed as one fully integrated process, handling both documentary credit and open account payments, through either Bank of America Direct® or EDI channels, and it will benefit a buyer by:

- **Automating the order-to-pay process using business matching rules.** Many companies still use manual reconciliation of purchase order to invoice to packing list, or other transport documents, to make the payment decision.
- **Providing more assurance to the seller of getting paid without the expense of documentary credits.** The buyer delegates the payment decision to the bank and notifies the seller that the bank, not the buyer, will release funds when conditions are met. Having the bank control release of funds against fulfillment of conditions may be a persuading factor for getting sellers to move from documentary credits to open account payments via a bank-administered electronic promissory note.
- **Offering sellers a number of on and off balance sheet financing options for both letter of credit and open account payments.** The spectrum runs from traditional bankers’ acceptance financing to our invoice discounting and securitization program. In the new world of trade finance, the barriers between banking, risk management and the capital markets are crumbling.

At Bank of America, we’d like to talk to you about our fully automated, globally linked trade processing systems, and about our future plans for partnering with you on the synchronization of your supply chains.
**The Bank of America Advantage**

With banking offices in 35 countries, serving clients in more than 150 countries and maintaining relationships with more than 2,500 correspondent banks, Bank of America offers worldwide resources – delivered locally.

Bank of America is a leading provider of pan-regional treasury and trade management solutions to major corporations, top investment banks brokerages, governments and international organizations.

Our full service capabilities span the entire working capital management spectrum – treasury management, foreign exchange dealing, short-term investments, financing, risk management, and trade services.

We are committed to providing quality service for all of your trade transactions where and when you need it. U.S. processing for trade services is provided through 12 U.S. cities. In Asia, where we are ISO9002 certified, processing occurs in key locations throughout the region. Latin American processing occurs in seven countries. European trade clients’ transactions are handled through either the U.S. or Asian trade processing centers, depending on client need.

**Technology Advantage**

Bank of America is a market leader in the development of Web-based transaction initiation and information reporting, imaging and electronic commerce capabilities. Our Internet-based trade activity management service on Bank of America Direct provides real-time access to traditional trade processes such as commercial and standby letters of credit and amendment applications, receipt of export letters of credit, payment processing, discrepancy resolution, documentary collections and comprehensive reporting for all types of transactions.

We’re also working right along with you on the development of innovative treasury and trade supply chain management services. Please contact us for more details.

**For More Information**

It’s important that companies constantly examine new ways to stay competitive and explore all their options, as there is much to consider in the rapidly changing global marketplace.

We welcome the opportunity to discuss some of these ideas with you. Please call your Bank of America Global Treasury Services representative, or access our Web site at [www.bankofamerica.com](http://www.bankofamerica.com)