



# insights

A LOOK AT BUSINESS TRANSFORMATION IN TODAY'S e-WORLD

## **Supply Chain Optimization: A Requisite to Survival in the New “e-Economy”**

*The Internet is driving a global business transformation as people increasingly conduct business online. Becoming an e-business brings about a wealth of opportunities for companies of all sizes as they can now extend their reach into new market segments, expand revenue streams and achieve more streamlined communications with employees, partners and trading partners.*

*To accomplish this, innovative organizations are investing in their applications infrastructure that can grow as their business grows, leveraging the Internet and fully integrating business processes across the entire supply chain. New advanced planning/supply chain applications offer a complete view of each customer across the entire supply chain to analyze, optimize and execute on a common set of information. This uniform execution enables organizations to fulfill customer demands in the shortest time, at the lowest cost and with maximum profits.*

Bottom-line results. Internet results. **Net Results.**

### **The Era of MRP and ERP Gives Way to the Era of the Internet**

MRP, MRP II and more recently Enterprise Resource Planning (ERP) systems have been the cornerstone of manufacturing and supply chain solution sets for more than 25 years. Virtually any company that creates, assembles, processes or distributes goods has implemented or attempted to implement one or more software-based manufacturing resource planning products over the past two and a half decades. Billions of dollars have been spent on software, software implementation and software integration in an effort to “gain control” of material flow and plant operations and to provide management with timely or useful reporting. The results, until recently, have been mixed at best.

Many of these early systems helped to provide discipline and structure where none had previously existed. Organizations bridged the gap from slow, paper-intensive processes to more flexible and timely software-enabled systems. These systems provided better cost controls and clearer views of material planning requirements than had been previously available. However, they were often isolated from other plants or divisions within the enterprise, lacking integration with materials requirements. Enterprisewide views of material requirements were often overstated or understated because of the need to consolidate by cutting and pasting a number of plant-level supply requirements

together. This limited view inhibited an organization from more effectively managing its supply chain, and ROI often fell short of that expected or hoped for by senior management and project sponsors.

As packaged software matured, MRP II evolved to ERP, offering the promise of a more enterprise – or even global – view of demand, resources and supply. But identifying improvement opportunities across an entire supply chain required more than redesigning the functionality of ERP and materials planning software. The interchange of demand forecast, materials levels, process capacity and a number of other critical factors needed to be examined and coordinated.

By the mid-'90s, as the economy began to take on a more global nature, ERP systems began offering a more complete view of customer demand and supply chain requirements. New functionality provided true multiplant demand and inventory consolidation capabilities, capacity visibility and management, multicurrency capabilities, better knowledge of suppliers and supplier relationships, forecasting and master scheduling across the enterprise, more sophisticated finite scheduling of materials, and more timely and insightful management reporting. For the first time there was a true global view of the enterprise.

*Then came the Internet – and everything changed.*

Many of these early systems helped to provide discipline and structure where none had previously existed.





### **The New “e-Economy” Demands New Relationships, Tools and Business Practices**

The advent of the Internet dramatically changed the way companies identify and capture business opportunities. With customers, partners, suppliers and employees all online, companies now have the potential to run their businesses with dramatically increased efficiency.

To meet the challenges and opportunities of today’s e-economy, businesses must now establish a global information network that supports real-time information exchange and collaboration with all of their customers and supply chain trading partners. They must create greater efficiencies and move toward mass customization in order to meet customer demand, and they must seek out trading networks that will support the exchange of business information. This will enable suppliers to access customer demand information, and customers to obtain real-time, accurate status on product availability, lead times and pricing with the click of a mouse.

Today, virtually any business, regardless of size, can use technology to partner with companies worldwide, interact with local markets, communicate in real time, and make more informed and strategic decisions about key demand-management issues.

*However, the tools and business practices of the era of MRP and MRP II cannot serve or sustain an enterprise in the new global, Internet-based*

*“e-economy.”* Companies must now develop solid supply chain strategies and aggressively capitalize on Web-enabled technologies in order to move quickly to reduce costs, strengthen supplier and distributor relationships, improve cycle times and forecasting, and better support their long-term business strategies.

New initiatives and new strategies based on the Internet, and collaborative partnerships with suppliers, will carry businesses to the next level of competition, by enabling companies to respond effectively to their customers’ demands. Those that will benefit the most include:

- Companies that deal with a substantial number of third-party suppliers or distributors and need to provide interconnectivity of information without the staggering capital investment of more traditional systems and network infrastructure.
- Companies that wish to develop a more strategic partnership with suppliers and/or customers to improve service and responsiveness or to decrease costs.
- Companies that manufacture or distribute products or services that are transferred from a digital form to another medium during bookings and information recording.
- Suppliers that wish to enhance the service, timing and cost requirements of specific or very large customers.

# Supply Chain Optimization

Business cases and ROI justifications will spring from new and creative materials and supply chain relationships. *Forging these relationships is critical to sustaining business growth – or in many cases, survival.*

## From Supply Chain to Supply Network: the New “e-Chain” Represents New Opportunities

In the old “push” economy, supply chain management was sequential and rigid: buy, make, move, sell. Today, e-economies are intensely demand-driven operations that require supply chain processes to be planned and executed in parallel. The very concept of a *supply chain*

may no longer be relevant. It is, rather, a dynamic supply *network* of interdependent partners that can be quickly reconfigured to the specific needs of a given customer for a new window of opportunity opening in the market, or in response to a competitive threat. This new “e-chain” represents limitless business opportunities at the intersection of process and technology.

Optimizing parallel rather than serial processes is the new key to supply chain management. Well-designed and well-integrated supply chains enable organizational agility in the face of change and improve upon existing cost-intensive processes. By embracing this “supply

Figure 1.

### The Supply Chain Network

**The supply chain network is a complex web of internal and external trading-partner relationships.**

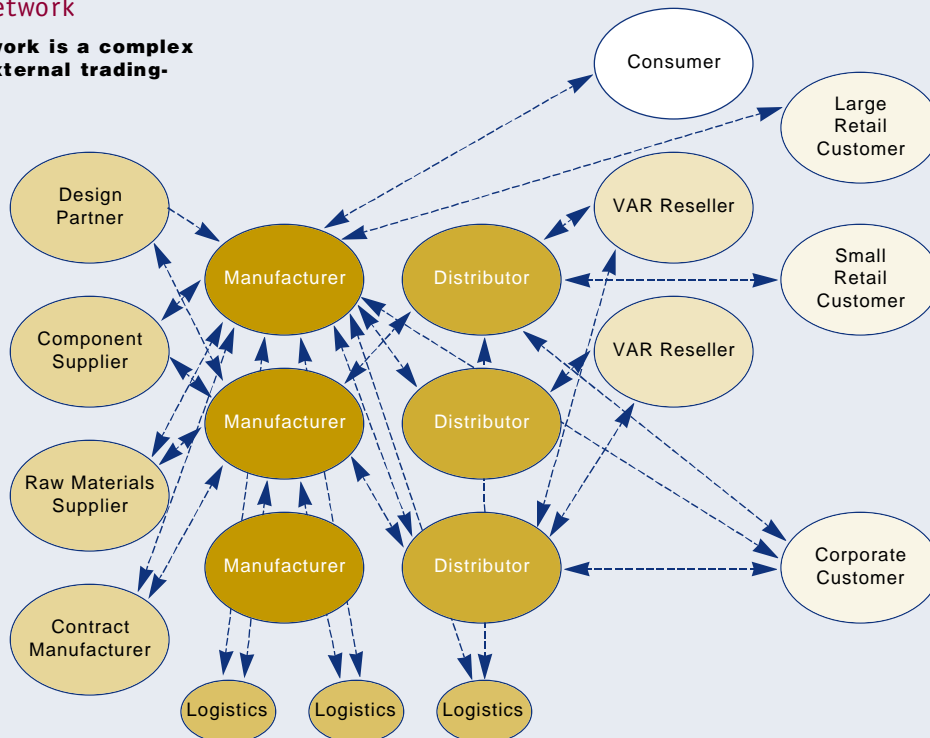
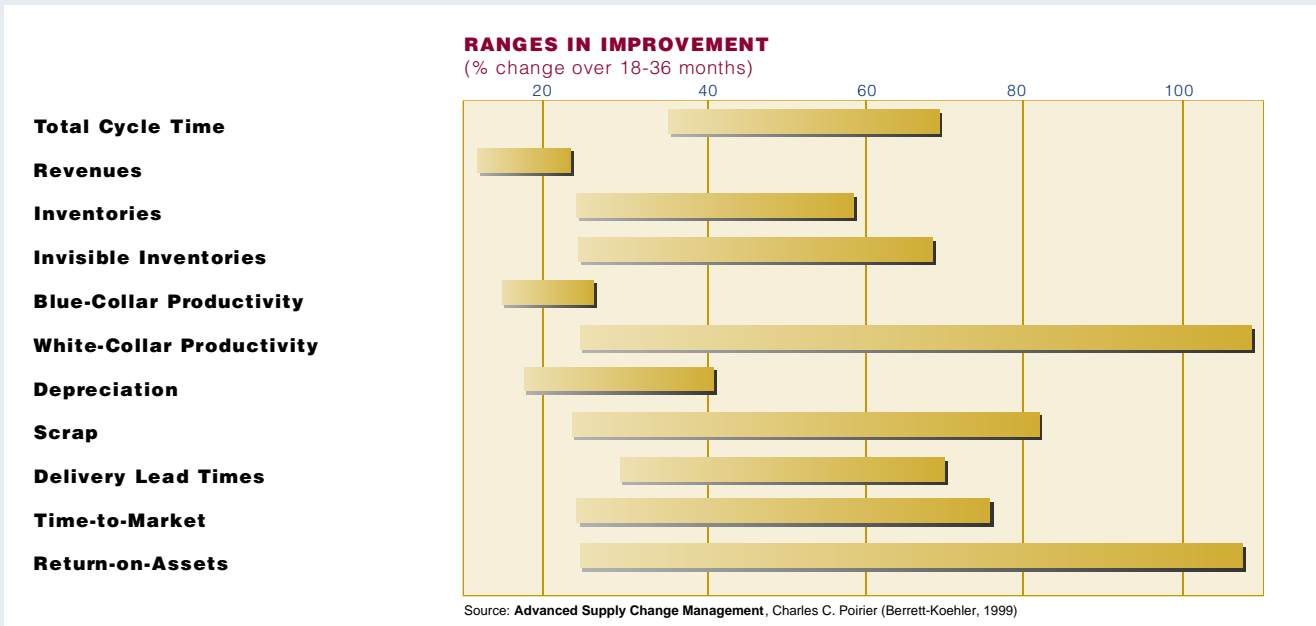


Figure 2.

## Supply Chain Optimization Yields and Improvements

**Supply chain optimization can yield substantial improvements and ROI benefits.**



The ability to achieve improved marketplace performance begins with a focus on the business needs and supply chain possibilities of an enterprise.

chain excellence,” growth-oriented companies can:

- Leverage Web technology for new “e-supply” strategies.
- Penetrate smaller, more fragmented markets cost-effectively.
- Create a “value network” for greater flexibility and synergies.
- Become worldwide process owners.

### **The Journey to Supply Chain Optimization Begins With a Strategy**

A complete supply chain strategy is essential to drive a company forward. The ability to achieve improved marketplace performance begins with a focus on the business

needs and supply chain possibilities of an enterprise. As a point of entry into supply chain optimization, companies must first ask the question, “Where are we going with technology, the Internet and our supply chain?” They must then conduct a strategic assessment of the enterprise to establish a best-fit solution combining business and supply chain strategies, process and technology. And they must:

- *Leverage the Internet.* Optimizing and integrating physical processes to enhance growth would not be possible without technology. But in order for a company to maximize its I/T investment, the first critical step is aligning the supply chain strategy with the business strategy to maximize process

Growth-oriented companies must respond by identifying those customers, segments, channels and markets for which customized services mean new or extended revenues.

capabilities. The technology can then be rapidly deployed to support the process, while connecting more potential trading partners more quickly, effectively and inexpensively than ever before.

- *Build value networks.* The precise mix of capabilities needed to build a high-performance, “inter-enterprise” supply chain must be brought together. This means adding value to the operations of each supply chain partner by making suppliers, trade customers, third parties and consumers more successful and ultimately, more loyal. Developing joint efficiencies and removing redundant assets is essential; as a result, relationships are broadened, the quality and “return on relationship or alliances” is enhanced, and the organization becomes a more attractive partner candidate. This helps generate more trust and confidence in both ongoing and new supply chain relationships.
- *Develop an operations franchise.* Like the brand franchises of many companies, operations franchises emphasize marketplace differentiation. As products become more generic, service becomes less generic. Growth-oriented companies must respond by identifying those customers, segments, channels and markets for which customized services mean new or extended

revenues. They must then focus on delivering stratified service that maximizes satisfaction and profitability. By developing an operations franchise, companies can make a stronger service commitment and thereby gain an important competitive advantage by recognizing and meeting the needs of each individual customer.

- *Promote customer leadership.* In a demand-driven world, a company’s sales, marketing and supply chain organizations must work together to understand a complete view of the enterprise – including consumer behavior, customer profitability, product financial performance, promotion effectiveness and segmentation of marketplaces – and then use that information to simultaneously operate and sell more effectively.

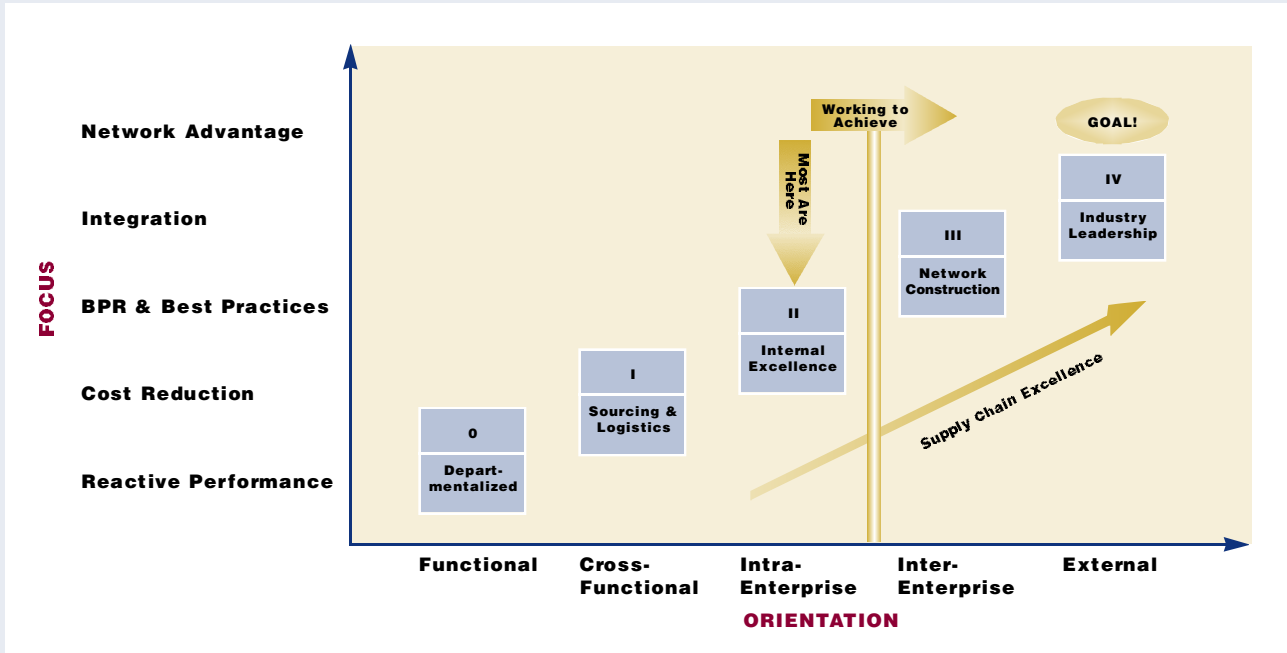
*To achieve supply chain optimization, a structured, yet flexible, framework is needed to implement complex changes and balance disparate goals and priorities. First, discovery must be performed to establish an e-chain business model, and a global vision must be articulated. Then, concurrent assessment and integration of infrastructure and information technology, management systems and mechanisms, organization, jobs and skills, and culture must be performed to help create better business processes.*



Figure 3.

### Supply Chain Optimization Has Four Levels

Supply chain optimization evolves through four levels, from exclusively internal expertise to externally focused expertise, to achieve industry leadership.



### Enhanced Relationships Deliver Maximum Value to Customers

Today's Internet-based supply chain model is designed to increase companies' bottom line by enhancing collaboration between businesses and their customers, suppliers and trading partners; increasing speed and flexibility of delivery; and providing self-service capabilities to all parties.

#### Collaboration

The Internet has redefined how businesses work together, raising

customer expectations and placing new demands on supply chain performance. In the new business-to-business model, businesses collaborate with customers, suppliers and trading partners via online marketplaces and leverage resources across the supply chain to deliver maximum value to their customers.

The new Internet-based supply chain model extends a company's reach to new global markets, allowing it to collaborate in new ways with trading partners. Traditional business-to-business supply chains and procurement relationships depend



on point-to-point communication with trading partners who may or may not offer the best combination of price, quality, service and on-time delivery. Today, the Internet enables businesses to interact via open, Web-based online marketplaces with suppliers and trading partners around the world to buy and sell high-quality goods and services at the best prices. Trading partners can be incorporated quickly and easily into the planning process. By modeling supply chain partners as key constituents in their global network, businesses can achieve unprecedented levels of visibility across the operations of their extended supply chain.

Businesses can also use the power of the Internet to collaborate on design and manufacturing with suppliers and customers and help speed up new product development. By creating technical specifications and other design materials with trading partners in real time, design time lines are shortened and fewer product redesigns are required, allowing businesses to bring cutting-edge product innovation quickly to market.

### **Speed and Flexibility**

Customers today demand fast and accurate delivery of competitively priced products and services that meet their unique requirements. They also want real-time confirmation of product availability, pricing and delivery before they place an order; the ability to design products to suit their unique needs; and 24x7 access to track order status, payment and delivery information. The supply chain needs to respond quickly to changing customer demand – from understanding and capturing customer needs to delivering high-quality, low-cost products in a timely fashion. A company's ability to respond to customer needs and fulfill customer orders, faster and better than its competitor is vital to survival in the fast paced e-business environment.

E-businesses today must also be able to optimally deploy all resources across the extended supply chain to profitably fulfill customer demand from all channels. A planning solution that supports global holistic planning and optimization can deliver rapid planning cycles and improved plan accuracy by unifying disparate planning processes into a single, all-inclusive process – from high-level strategic planning down to shop floor detailed scheduling. In addition, a supply chain solution



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that supports all manufacturing methods and scheduling and that uses a single, holistic plan will allow companies to choose the most efficient manufacturing process to make each of its products. Regardless of whether a company deploys custom project manufacturing, integrated flow manufacturing, discrete manufacturing or continuous process manufacturing, across multiple sites or within a single plant, rapid response to customer demands is essential.

#### **Self-Service**

Leveraging Internet technology and the new business-to-business model to put customers, suppliers and internal operations online fuels the move to a more efficient, responsive, demand-driven supply chain. By interacting through self-service, this structure provides trading partners global visibility into demand and supply, fosters real-time collaboration and information exchange, and reduces inventories and cycle times, culminating in enhanced value to the customer. In fact, the true test of successful e-business operations is the ability to fulfill customer demand quickly and profitably – delivering high quality, customized products and services in the shortest possible time.

Internet self-service transactions enable suppliers and customers to become strategic partners in the planning process by sharing critical information such as demand forecasts, production schedules and plan exceptions, resulting in a highly efficient and streamlined supply chain. Self-service eliminates intermediaries and delays and produces more accurate information. It also streamlines internal processes by driving out non-value-added activities, enabling more time for strategic analysis. With consolidated information, companies can have global sales forecasts, perform global supply chain management and run their entire business globally.

*New advanced planning/supply chain services and solutions are available to help companies discover growth-focused ways to serve segmented markets creatively and cost-effectively through the collaboration of people, processes and technology. By leveraging a comprehensive, integrated, e-business suite of tools based on Internet technology, companies can enhance customer satisfaction, improve operational efficiencies and cut costs. They can also increase revenues by accessing new customers in global markets, promote customer loyalty by delivering what the customer needs, and save money by reducing inventories, cycle times and procurement costs.*

### **Companies Must Achieve Supply Chain Excellence to Succeed and Survive**

The Internet has redefined how businesses work together, raising customer expectations and placing new demands on supply chain performance. In the new business-to-business model, businesses collaborate with trading partners via online marketplaces and leverage resources across the supply chain to deliver maximum value to their customers.

Supply Chain excellence results from optimizing processes within the sell-design-buy-make-move universe; aligning those processes to build synergies, market focus and net cost effectiveness, and leveraging technology throughout planning and implementation to eliminate redundancy and improve consistency and communications. To achieve better performance in the marketplace, companies must:

- Increase efficiency by streamlining, integrating and managing key processes that comprise tangible and virtual supply chains.
- Grow businesses by leveraging the e-chain network as a vehicle for increasing revenues in a sustainable, profitable manner.
- Rapidly deploy e-business solutions to achieve measurable business results and remain competitive.

Companies must fully embrace the intersection of business and technology in order to thrive – and survive – in the new e-economy.







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