Follow the leaders

Scoring high on the supply chain maturity model
A Japanese perspective
IBM Institute for Business Value

IBM Global Business Services, through the IBM Institute for Business Value, develops fact-based strategic insights for senior business executives around critical industry-specific and cross-industry issues. This executive brief is based on an in-depth study by the Institute’s research team. It is part of an ongoing commitment by IBM Global Business Services to provide analysis and viewpoints that help companies realize business value. You may contact the authors or send an e-mail to iibv@us.ibm.com for more information.
Introduction
IBM Global Business Services completed the 2005 Value Chain Survey which identifies current practices, captures significant trends and establishes operational performance benchmarks in five key areas of Supply Chain Management: New Product Development, Supply Chain Planning, Procurement, Logistics and Customer Fulfillment.

1807 executives were contacted by phone throughout Japan to target which of the five survey questionnaires were of interest to their companies. Each survey included 18 to 27 questions about overall business objectives, enabling technologies and current practices, as well as core performance data, such as level of resources (full-time equivalent), cycle times or efficiency rates. There were a total of 1313 survey respondents, the majority of which are in the Consumer Products, Industrial Products and High Technology industries, with limited representation from Distribution and Transportation, Automotive, Retail, Pharmaceuticals, Services and Energy.

This major research project was undertaken with support from the IBM Benchmarking program and the IBM Institute for Business Value to gain perspective on where supply chain management is today and the direction in which it is evolving. This report places the research findings into an overall context and provides insight into the continuing evolution of supply chain and value chain management principles.

Executive summary
What do the top-performing supply chains have in common?

Top supply chains do have a common trait: the ability to respond quickly to shifts in demand with innovative products and services. To do this, they employ a variety of business strategies and models, coupled with leading management practices. And, they consistently measure their performance based on a handful of key indicators:

- Perfect order attainment
- Demand management accuracy
- Time to value
- Cash-to-cash cycle time
- Supply chain cost.

These indicators of supply chain performance are the gauges used to monitor the efficiency of the business.

Leading companies have evolved and transformed their supply chains from static and isolated, to functional, focused operational excellence, to horizontal integration within the company, to external collaboration with partners, and eventually to on demand performance (see Figure 1).

According to AMR Research’s recent ranking of the world’s top supply chains, the companies that were highly rated carry less inventory, have shorter cash-to-cash cycle times and are more profitable.¹

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According to the 2005 Value Chain Benchmarking Study, supply chain executives’ top three objectives remain:

1. Increased profitability
2. Reduced costs
3. Improved responsiveness.

To meet these objectives, the leaders understand that supply chain effectiveness must be more than efficiency and low cost – revenue growth and profitability are best achieved by creating an integrated value chain with the ability to condition demand and respond to supply chain shifts with innovative products and services.

Many companies are progressing toward the vision of an on demand, customer-driven supply chain – one that is integrated end-to-end across the business and with key customers, partners, suppliers and service providers. The top-performing supply chains are actively transforming their strategies and adopting leading management practices, including:

- Coordinating business functions across the supply chain
- Developing mutually beneficial ways to strengthen supply chain relationships
- Synchronizing supply and demand through planning and forecasting
- Managing supply chain cycles
- Developing variable cost structures
- Sharing risks with partners
- Using realtime information to create responsive, customer-driven processes.

In this year’s Value Chain Study report, we drew a parallel between multi-industry benchmarked results and supply chain maturity in four key areas:

- **The perfect product launch**: Product introduction and lifecycle management
- **Synchronizing supply, conditioning demand**: Customer-driven planning
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- **Global buying power through strategic sourcing:** Dynamics of global sourcing
- **Logistics excellence for superior customer fulfillment:** Perfect order attainment

**The perfect product launch**

Successful innovation has become a key determinant of revenue growth, competitive margins and, in some cases, even survival. The ability to bring this innovation to market quickly, efficiently and ahead of the competition is becoming increasingly important. A key element of this process is an efficient product launch. These processes require integration and coordination among multiple functional areas, including product design, procurement, sales and marketing, planning and manufacturing/process. In addition, as organizations increasingly leverage core capabilities of other companies, this innovation has to be delivered through virtual networks – working with partners in a collaborative environment to bring product and services to market faster, smarter and cheaper. Consequently, organizations now not only need to integrate internally, but also externally with suppliers and customers, creating end-to-end supply chain processes and capabilities with differentiated responses to customer requirements.

**Key survey findings**

Launching products and services that best fit customer requirements is clearly the top objective for new product development in Japan. Lower introduction costs and product/service innovation pale in comparison to being first to market with products that meet customer wants and needs (see Figure 2).

Lifecycle cost management and recyclable materials for components are the most widely implemented practices for new product development, followed by standardization of components and collaboration with customers. The practices being considered as most effective are lifecycle cost management (96 percent), customer product configuration (92 percent) and integrated design with partners (91 percent). Identifying and meeting customer requirements is the primary challenge for remaining competitive. Over 83 percent responded that the correct identification of customer needs is their most significant management challenge in new product development.

To design for customer requirements while maintaining cost control objectives, many manufacturers are incorporating product commonality and reuse techniques with standardization of components. Reusing existing designs and other knowledge assets can help streamline

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**Figure 2. What is the primary strategy for your site’s new product development efforts?**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Percent Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best fit to customer requirements</td>
<td>43</td>
</tr>
<tr>
<td>First to market</td>
<td>38</td>
</tr>
<tr>
<td>Low product/service cost</td>
<td>12</td>
</tr>
<tr>
<td>Innovative product/service features</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: IBM Institute for Business Value 2005 Value Chain Study.
the product development process and, at the same time, significantly improve product quality by standardizing and reusing proven components and assemblies. A formal program of commonality and reuse can also help reduce direct materials procurement costs, speed time-to-market and improve product quality.

Innovation is primarily taking place for new product introductions (49 percent), and to a lesser extent, for new customer markets (25 percent). Existing product introductions and extensions account for the remainder of efforts to generate new ideas. Overall, average time-to-market is decreasing for new product variations (see Figure 3).

Historically, new product development efforts have concentrated on achieving on-time and on-budget targets. However, the 2005 Value Chain Study revealed that a significant proportion of Japanese respondents miss their product development schedule targets. Likewise, a significant proportion of respondents miss their product development budget targets (see Figure 4).

The perfect product launch manages the development and support of complex products and services throughout the entire lifecycle from product design to product build to post-sales service. It includes the integration of traditional product lifecycle management, such as product innovation, design and collaboration, with sourcing and procurement, supply chain planning and execution, and service – the entire product lifecycle.
What the leaders are doing to achieve the perfect product launch
As companies evolve up the supply chain maturity model toward an on demand supply chain (see Figure 5), they realize that business performance is directly related to their ability to bring superior products and services to market in a cost-effective manner. Many of the leaders are implementing the following practices:

- Collaborating with customers to explicitly define requirements
- Including logistics and “get-to-market” requirements in product/service design
- Integrating with suppliers and supply chain service providers during design, development, production and service
- Using componentization and standards to develop variations on products at lower costs
- Outsourcing design and development activities for non-core products and/or components.

Key take away and recommendations
Achieve the perfect product launch through the integration of product/service lifecycle management activities with customers, suppliers and service providers. Deliver superior innovation of products/services through effective cost management. Begin by tightening the integration with partners during the design phase to validate that all (people, processes, technology) are aligned prior to product launch. Accelerate the development of people skills for rapid delivery.

Synchronizing supply, conditioning demand
When companies can move away from reacting to market conditions to a more proactive stance, they create a sharp competitive edge. Responsive supply chains can enable market conditioning through trend analysis, and supply and demand information – using order trends and actual demand to provide early warnings of constraints and excesses, identifying key forecasting events and order events. This provides advanced insight for demand conditioning. The processes and systems can correlate

![Figure 5. Perfect product launch – where are you on the supply chain maturity model?](image-url)

Source: IBM Institute for Business Value analysis.
and analyze the information, and detect likely supply constraints and excesses, then alert the appropriate parties of exceptions and recommend actions. These early warnings allow the company to position itself to condition demand for existing and planned supply.

Demand-driven synchronization of supply chain planning and execution activities, in collaboration with suppliers and partners, enables companies to balance demand and supply, and to optimize customer service and inventory levels by continuously planning, in realtime, across organizational boundaries. The result is a feasible, synchronized plan.

**Key survey findings**

Political/economic uncertainty is negatively affecting costs and sales (see Figure 6). Lead times are only impacted for a minority of Japanese respondents.

Companies are employing customer-focused practices to synchronize customer demands for product delivery (for example, the “perfect order”), while balancing the costs associated with excessive inventory in the pipeline. Many companies are using continuous replenishment programs to maintain customer-specified levels of products on the shelf and direct material inventories in supply. They are finding these programs to be extremely effective (see Figure 7).

Inventory planning and deployment is primarily based on customer sales (65 percent) and volume (61 percent), followed next by product grouping, margin, market share and lastly, region or geography. Few respondents (only 20 percent) use customer profitability as a determinant for inventory deployment, even though profitability is the number one objective.

A majority of the respondents are effectively using realtime, shared electronic demand and inventory data to gain visibility into customer demand and to collaborate on forecasts. In a totally integrated supply chain, customer point-of-sale or demand information is used within the organization to better plan and adapt production and other schedules in accordance with demand requirements. To further synchronize supply with demand, the customer forecast information is fed back to key suppliers. In times of spikes in demand, the company can then shift production back and forth between suppliers.

Half of companies responded that they are “rapidly” responsive to changing market conditions (50 percent) and have realtime visibility inside and outside the enterprise (55 percent). Yet, when asked about collaborative planning initiatives, only 7 percent are implementing collaborative approaches with suppliers and only 9 percent with customers. Likewise, few are sharing visibility on inventory and demand with suppliers (25 percent).

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**Figure 6. How has political/economic uncertainty impacted your supply chain efforts over the past five years?**

<table>
<thead>
<tr>
<th>Impact</th>
<th>Percent Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased cost</td>
<td>51</td>
</tr>
<tr>
<td>Decreased sales</td>
<td>50</td>
</tr>
<tr>
<td>No impact</td>
<td>21</td>
</tr>
<tr>
<td>Increased lead times</td>
<td>13</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
</tr>
<tr>
<td>Increased sales</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: IBM Institute for Business Value 2005 Value Chain Study.
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Factors that impact the delivery of products and services. Respondents in Japan indicated that forecast accuracy is being measured primarily by customer segmentation and by product family. Thirty-five percent are measuring forecast accuracy at the stock keeping unit (SKU) and 25 percent at the market level.

Demand/supply planning and synchronization results in quantifiable supply chain performance improvement. Companies employing advanced demand planning techniques typically carry less inventory, are more likely to meet customer requirements for perfect order attainment and are generally more profitable. The value chain study showed that for 57 percent of companies, customer lead time is less than a week (see Figure 8). Finished goods inventory is turned more than 12 times a year by more than a quarter of firms and cash-to-cash cycle time is less than a month for a third of firms. While cost of quality has improved in the last three years, only 31 percent of respondents achieve an on-time delivery rate above 95 percent.

As organizations seek to get closer to their customers and “pull” demand through their supply chains, an accurate reflection of product demand is critical to increasing sales revenue, profitability and customer satisfaction, while reducing inventories and order cycle times. Inventory planning and replenishment applications are in use by nearly 60 percent of firms, yet only 25 percent rely on dedicated demand planning software. Most are using internally developed software, and only a few (an average of 7 percent) are using vendor packages. Demand/supply planning is becoming much more organizationally integrated, with sales and marketing, finance, supply chain operations, information technology and even key partners involved in the sales and operations planning processes.

Effective demand management can have a significant impact on new product introductions, while similarly affecting the decision to retire an existing product. These issues (along with many others) must be considered by businesses everyday when attempting to forecast demand: pricing, product mix, promotions and other

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**Figure 7. To what extent have the following customer practices been implemented?**

<table>
<thead>
<tr>
<th>Practice</th>
<th>Extensive</th>
<th>Some</th>
<th>None</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared, realtime electronic demand/inventory data</td>
<td>11</td>
<td>39</td>
<td>51</td>
<td>96%</td>
</tr>
<tr>
<td>Customer interactions with production</td>
<td>5</td>
<td>41</td>
<td>55</td>
<td>97%</td>
</tr>
<tr>
<td>Continuous replenishment</td>
<td>9</td>
<td>33</td>
<td>58</td>
<td>99%</td>
</tr>
<tr>
<td>Inventory management at customer location</td>
<td>5</td>
<td>32</td>
<td>63</td>
<td>92%</td>
</tr>
<tr>
<td>Returns management/reverse logistics</td>
<td>5</td>
<td>31</td>
<td>64</td>
<td>92%</td>
</tr>
</tbody>
</table>

Source: IBM Institute for Business Value 2005 Value Chain Study.
Figure 8. Key supply chain performance indicators.

**For primary products, what is your standard customer lead-time?**

- >30 days: 26%
- 8-30 days: 24%
- 3-7 days: 33%
- 0-2 days: 17%

**What is your on-time delivery rate?**

- >97%: 53%
- 96-97%: 17%
- 91-95%: 1%
- 0-90%: 30%

**What is your annual total finished goods inventory turn rate?**

- >26 days: 34%
- 13-26 days: 39%
- 5-12 days: 16%
- 0-4 days: 11%

**What is your site's annual cost of quality?**

- >10%: 45%
- 6-10%: 29%
- 3-5%: 25%
- 0-2%: 13%

Source: IBM Institute for Business Value 2005 Value Chain Study.
What the leaders are doing to achieve supply and demand synchronization

As companies evolve up the supply chain maturity model toward an on demand supply chain (see Figure 9), they are developing demand-driven extended supply chain networks. Many of the leaders are implementing the following practices:

- Collaborative demand planning and forecasting with customers and suppliers
- Customer inventory planning and deployment programs, including continuous replenishment and shared management of inventory
- Integrated sales and operations planning among functions within the organization and the extended supply chain network
- Specialized and differentiated supply chain strategies based on customer segmentation, customized service levels and strategic planning.

Key take away and recommendations

Achieve profitability objectives by synchronizing demand and supply. Implement organizationally integrated (sales and marketing, supply chain operations, finance, IT), collaborative planning processes with key customers, suppliers and service providers. Use real demand to replace forecasts. Create a synchronized and adaptive capability, by mastering integration and enabling rapid execution across the extended supply chain. Implement a robust capability to sense customer demands and other critical events as they occur and respond to them in the most efficient way. Create high responsiveness and cost/profit performance models that help identify the best supply response to optimize opportunities or resolve problems with speed and flexibility.

![Figure 9. Condition demand, synchronize supply – where are you on the supply chain maturity model?](source: IBM Institute for Business Value analysis.)
Global buying power through strategic sourcing

Global sourcing patterns continue to shift dynamically in search of lower-cost sources. In addition, companies continue to rationalize and harmonize their own global value chain resources in search of more efficient and effective means of meeting global customer demands. Fast, flexible, efficient and transparent response to changing end-customer demands and supply shocks remains a strategic mission for supply chain management and will be essential to compete.

To effectively analyze and manage total procurement spend, companies need comprehensive, as well as basic, information, and visibility into purchasing spend and behavior patterns. Enterprises need operational and supplier performance measurements to effectively manage supplier relationships. Shifting to customer-driven supply networks can be accomplished by integrating sourcing, procurement, operations and logistics with partners to better manage global strategic sourcing and spending, and to achieve reduced procurement costs, enhanced profitability and cash flow.

Key survey findings

Cost containment (76 percent) and profitability (60 percent) continue to be the major objectives for procurement and supplier management functions in Japan, followed by improved quality and increased unit volume. Collaboration with suppliers and global sourcing of direct material are viewed as the key factors to achieve profitability and reduced costs (see Figure 10).

Collaborative design and development, where companies engage suppliers and exchange knowledge during the entire product lifecycle, can help reduce costs and time-to-market, and, at the same time, maintain quality standards. Working in isolation and making assumptions about supplier capabilities may undermine sourcing strategies because of higher costs, and may fail to leverage supplier knowledge for componentization and reuse.

With the major low-cost jurisdictions being located in Asia, Japanese firms source, on average, 96.7 percent of their direct material from this region. This percentage has even increased slightly in the last three years, while sourcing from other geographies is declining further.

![Figure 10. What are the key initiatives underway to achieve your objectives?](image)
Sourcing decisions remain primarily based upon the supplier’s price, with quality being the second most important criterion. Many companies are beginning initiatives where the total cost of ownership (TCO) is a key driver of strategic sourcing. TCO involves the analysis and inclusion of all process costs, actual procurement costs, and even operations and maintenance costs, if applicable. Eighteen percent of the Japan survey respondents use total cost as the key performance criterion in evaluating suppliers (see Figure 11).

Many companies struggle to capture accurate, timely data that could give them insight into enterprisewide spend patterns, such as maverick spend rates, contract compliance and price optimization opportunities. Most respondents do not plan to invest in procurement applications, but the demand for supply chain integration technology and e-Procurement / e-Sourcing appears solid. Respondents are making supplier management and procurement technology investments in the following areas:

- EDI / Demand signal sharing 43 percent
- Web-enabled e-Procurement and e-Sourcing 40 percent
- Spend analysis 33 percent
- Internal supply chain integration 26 percent

Establishing global buying power through strategic sourcing involves creating supply relationships that help optimize potential value contribution by accurately matching demand requirements with supply market capabilities. There is continued emphasis on overall supply chain performance and profitability, as evidenced by the results of the following key sourcing and procurement measurements (see Figure 12).

Supplier lead times have improved with 75 percent reporting stable and 21 percent decreasing lead times over the past three years. Results from 2005 show a significant improvement in supplier on-time delivery, with 72 percent reporting delivery of at least 85 percent of supplier orders by the date originally requested. Purchase orders are processed in less than an hour by 22 percent of the respondents. Raw material inventory turns less than 12 times a year for 71 percent of firms.

Figure 11: Which describes best your relationship with suppliers?

Source: IBM Institute for Business Value 2005 Value Chain Study.
Figure 12. Supplier management and procurement performance.

What is your site’s average supplier lead-time on purchased materials?

- <10 days: 64%
- 11-20 days: 17%
- 20-30 days: 13%
- >30 days: 6%

What percentage of supplier orders is delivered by the original request date?

- 0-85%: 39%
- 85.1-90%: 28%
- 90.1-95%: 26%
- >95%: 19%

Using standard costs, what is your business site’s annual raw material inventory turn rate?

- 0-4 turns per year: 26%
- 5-12 turns per year: 45%
- 13-26 turns per year: 17%
- >26 turns per year: 12%

What is the average cycle time, in hours, to place a purchase order at your site?

- 0-0.5 hours: 8%
- 0.6-1 hours: 14%
- 1.1-4 hours: 33%
- >4 hours: 44%

Source: IBM Institute for Business Value 2005 Value Chain Study.
What the leaders are doing to achieve global buying power

As companies evolve up the supply chain maturity model toward an on demand supply chain (see Figure 13), they are increasing their buying power through strategic global sourcing, while creating virtual supplier networks. Many of the leaders are implementing the following practices:

- Continuing to source from low-cost jurisdictions for direct and indirect materials
- Implementing proactive category management to drive continuous value creation
- Investing in fewer, deeper supplier relationships and developing collaborative supplier relationship management programs with mutual objectives and performance criteria
- Outsourcing basic procurement, payment and audit functions as a way to unlock new value
- Driving adoption of TCO approaches through more strategic and complex, value-based contracting.

Key take away and recommendations

Achieve profitability objectives by increasing your global buying power through an integrated, high-performance network of suppliers and service providers. Become business partners, not just buyers. Focus on business value contribution by enhancing customer service capabilities, and category and supplier management skills, and by establishing measurements that track procurement efficiency and effectiveness. Explore additional capability sourcing options such as co-sourcing or similar arrangements to reduce risk and increase buying power.

Figure 13. Global buying power through strategic sourcing – where are you on the supply chain maturity model?

Source: IBM Institute for Business Value analysis.
**Logistics excellence for superior customer fulfillment**

Today's decentralized supply chain models and tighter trading partner collaborations demand expanded logistics capabilities – more stocking locations, more frequent ordering, smaller order sizes, more costly modes of transportation, multichannel distribution, configure-to-order capabilities, personalization and distributed responsibility. With improved visibility and fulfillment tools, the logistics function has become a key component of supply chain operations, helping to combat inefficiencies in warehouse labor, transportation and space utilization, and inaccuracies in inventories and customer shipments. Implementing expanded, yet cost-effective, strategies for supply chain logistics has become a mission-critical objective.

**Key survey findings**

As any shipper of products knows, transportation costs are out of control. Transportation cost increases, driven primarily by fuel prices in the past two years, combined with a capacity shortfall have led to a significant rise in logistics costs.

Formal distribution strategies are being implemented, as companies look for ways to balance the global sourcing of material with increasing transportation and distribution costs and, as always, rising customer service requirements (see Figure 14). Many are considering the placement and deployment of inventories in their networks to counterbalance the recent skyrocketing increases in transportation costs. Some companies are even reestablishing distribution facilities closer to the customer to combat transportation capacity and costs issues. Another tactic is implementing differentiated logistics services for particular customer segments and markets.

As companies strive to develop an integrated and informed logistics network, many are implementing collaborative processes, including supply chain visibility and exception management, with logistics service providers. Many are seeking improvements in collaborative order fulfillment and visibility – designing and implementing processes and Internet-based technologies to provide visibility and realtime management of distributed order fulfillment across today's complex, highly outsourced supply chains.

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**Figure 14. To what extent have the following logistics practices been implemented at your company?**

<table>
<thead>
<tr>
<th>Practice</th>
<th>Extensive implementation</th>
<th>Some implementation</th>
<th>No implementation</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal distribution strategy (location, number, mission, mix)</td>
<td>17</td>
<td>54</td>
<td>29</td>
<td>97%</td>
</tr>
<tr>
<td>Collaborative carrier management</td>
<td>23</td>
<td>45</td>
<td>31</td>
<td>96%</td>
</tr>
<tr>
<td>Formal returns management</td>
<td>8</td>
<td>39</td>
<td>53</td>
<td>91%</td>
</tr>
<tr>
<td>Differentiated logistics services for discrete customer segments</td>
<td>1</td>
<td>30</td>
<td>68</td>
<td>96%</td>
</tr>
<tr>
<td>Collaboration and integration among service providers</td>
<td>4</td>
<td>26</td>
<td>71</td>
<td>99%</td>
</tr>
<tr>
<td>Cross-docking, flow through</td>
<td>4</td>
<td>16</td>
<td>80</td>
<td>98%</td>
</tr>
<tr>
<td>Supply chain visibility for managing exceptions</td>
<td>12</td>
<td>86</td>
<td></td>
<td>97%</td>
</tr>
</tbody>
</table>

Source: IBM Institute for Business Value 2005 Value Chain Study.
Companies are finding that these practices are extremely effective in meeting their objectives for increased profitability, cost containment and increased customer responsiveness/service.

More and more companies are developing a variable, global logistics network of service providers to better manage end-to-end logistics costs while providing greater levels of on-time delivery, fill rate and other customer performance expectations. They are accomplishing this by outsourcing components of their overall logistics capabilities to transportation and distribution service providers. Transportation (inbound and outbound) continues to be the highest ranking outsourced function (86 percent), with warehousing and/or distribution centers (DCs), transportation management services (TMS) and customs/export following. Overwhelmingly, the Japanese respondents indicated that those outsourced functions are effective in meeting their desired objectives (transportation 99 percent, warehousing/DCs 99 percent, TMS 98 percent and customs/export 97 percent).

Superior customer fulfillment requires keeping a careful eye on logistics performance and key indicators. For the last three years, customer order cycle times have been improving (see Figure 15). For more than 71 percent of the respondents, cycle times are below ten days. Fifty-nine percent are achieving order fill rates above 90 percent. On-time delivery (OTD) remains the major indicator of customer satisfaction and logistics performance excellence, along with other perfect order components (such as complete, accurate documentation, undamaged). Fifty-five percent of the respondents achieve OTD rates of 90 percent and greater. In this survey, OTD was defined as scheduled delivery time versus the customer’s original request date.

![Figure 15. Customer fulfillment performance.](image-url)

**For primary products, what is the average customer order cycle time in days?**

<table>
<thead>
<tr>
<th>Time</th>
<th>2002</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 days</td>
<td>58</td>
<td>61</td>
</tr>
<tr>
<td>6-10 days</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>11-20 days</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>&gt;20 days</td>
<td>23</td>
<td>19</td>
</tr>
</tbody>
</table>

**What is your site’s order fill rate?**

<table>
<thead>
<tr>
<th>Fill Rate</th>
<th>2002</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-90%</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>90.1-97%</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>97.1-99%</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>&gt;99%</td>
<td>21</td>
<td></td>
</tr>
</tbody>
</table>

**What percentage of sales orders is delivered on time, as scheduled?**

<table>
<thead>
<tr>
<th>Delivery Percentage</th>
<th>2002</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-90%</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>90.1-97%</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>97.1-99%</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>&gt;99%</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

Source: IBM Institute for Business Value 2005 Value Chain Study.
What the leaders are doing to achieve logistics excellence

Companies continue to strive to improve their logistics execution and performance in order to meet profitability and cost containment objectives, but much more importantly, to deliver “the perfect order” and meet customer requirements for the right product at the right time for the right price.

As companies evolve up the supply chain maturity model toward an on demand supply chain (see Figure 16), they develop robust, global logistics capabilities that are variable in structure and cost – logistics networks that are highly integrated and can fluctuate to accommodate varying customer demand.

Many of the leaders are implementing the following practices:

• Outsourcing of non-core logistical functions to third-party, leading logistics providers

• Integration of end-to-end processes with key service providers and other supply chain partners

• Keeping a watchful eye on key events and performance criteria

• Managing the logistics network by monitoring events and exceptions.

Key take away and recommendations

Achieve superior customer fulfillment (that is, the perfect order) by restructuring logistics processes from end-to-end to develop a variable network of partners and cost structure which is responsive to customer service requirements. Outsource non-core activities to service providers to support supply chain flexibility and enable “plug and play” with systems of partners. Adopt advanced technology to achieve end-to-end supply chain integration and synchronization with a greater degree of visibility and reliability.

Figure 16. Logistics excellence for superior customer fulfillment – Where are you on the supply chain maturity model?

<table>
<thead>
<tr>
<th>Traditional</th>
<th>On demand supply chain</th>
<th>Source: IBM Institute for Business Value analysis.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Static supply chain</td>
<td>5. Integrated distribution network with customers</td>
<td></td>
</tr>
<tr>
<td>• Different logistics networks/</td>
<td>• Common outsourced partners</td>
<td></td>
</tr>
<tr>
<td>infrastructure by business unit</td>
<td>• Visibility to entire order-to-cash cycle</td>
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<tr>
<td>• No enterprise approach to</td>
<td>• Commitments are demand-driven with managed</td>
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<tr>
<td>outsourcing of logistics and</td>
<td>replenishment</td>
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<td>fulfilment functions</td>
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<tr>
<td>• Focus on production and supply</td>
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<tr>
<td>to customers in ready state</td>
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<tr>
<td>• Experience high inventory</td>
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<tr>
<td>levels/frequent stock-outs</td>
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<tr>
<td>2. Functional excellence</td>
<td>4. Integrated distribution network with customers</td>
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<tr>
<td>• Common network and infrastructure</td>
<td>• Common outsourced partners</td>
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<td>• Some outsourcing – business unit differentiated</td>
<td>• Visibility to entire order-to-cash cycle</td>
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<td>• Different services to key</td>
<td>• Commitments are demand-driven with managed</td>
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<tr>
<td>customers</td>
<td>replenishment</td>
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<td>• Customer order online/EDI,</td>
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<td>receive acknowledgements</td>
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<td>3. Horizontal integration</td>
<td>3. Enterprise integrated network, shared assets</td>
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<tr>
<td>• Open network supporting</td>
<td>• Common use of outsourced logistics and contract</td>
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<tr>
<td>standards with rapid</td>
<td>manufacturing providers</td>
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<tr>
<td>reconfiguration</td>
<td>• Cross-functional visibility to inventory and shipments</td>
<td></td>
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<tr>
<td>• Variable cost structure</td>
<td>• Differentiated services based on customer segmentation</td>
<td></td>
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<td>• Outsource all noncore supply</td>
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<td>chain activities</td>
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<td>• Dashboards monitor end-to-end</td>
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<td>performance and alert exceptions</td>
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<td>4. External collaboration</td>
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<td>• Integrated distribution</td>
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<td>network with customers</td>
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<td>• Common outsourced partners</td>
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<td>• Visibility to entire order-to-</td>
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<td>cash cycle</td>
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<td>• Commitments are demand-driven</td>
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<td>with managed replenishment</td>
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</table>
Conclusion

Complexities in supply chain management are dramatically increased by today’s shift toward emerging global markets for material sourcing, manufacturing, distribution and product development. These shifts could introduce further challenges, including potential deterioration of performance. Integration with both internal constituents and external partners – such as contract manufacturers or suppliers – is now becoming a critical competency. Focusing on global efficiency requires supply chain leaders to get the foundational elements right before addressing this new challenge.

The role of the supply chain is also changing as it moves from a static, cost-centric approach to an evolving, integrated model. Organizations are focusing on the supply chain to help transform their businesses by:

• Altering the way they think, organize and execute
• Looking at business processes horizontally rather than vertically
• Integrating processes within and beyond the enterprise.

Companies are moving toward a dynamic, realtime supply chain. This type of on demand supply chain is supported by applications that enable realtime information visibility, both inside and outside the enterprise. It can respond to changes in market conditions faster than traditional supply chains, and uses information to sense shifts and redirect resources. An on demand supply chain is adaptable and can enable companies to seize market opportunities based on actual demand and market conditions.

The 2005 Value Chain Study indicates that many companies’ supply chains still have significant room for improvement in delivering high performance with increased profitability.

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The IBM Benchmarking Program understands the importance of benchmarking as a step toward performance improvement. The program offers a structured approach to benchmarking in supply chain, finance and human resources processes. The IBM benchmarking program has existed since 1992 and has helped thousands of organizations in more than 50 different countries with their benchmarking needs.

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Reference