Follow the leaders

Scoring high on the supply chain maturity model

An Australian and New Zealand 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 realise business value. You may contact the authors or send an e-mail to iibv@us.ibm.com for more information.
Executive summary

In 2003 when IBM last undertook a supply chain management study of this magnitude, the stand-out objective of leading supply chains was to increase profitability – while, at the same time, reducing costs and improving quality. Now, quality is a given. Responsiveness has taken its place in a set of three top objectives – which are common for supply chains across all the geographies surveyed. But there is a difference in emphasis. As shown in Figure 1, supply chains in Australia/New Zealand (ANZ) and Europe are much more focussed on responsiveness. The United States and Japan, meanwhile, have maintained their focus on profitability. In addition, the ANZ supply chain is being tasked with ongoing cost reduction, hence the new supply chain challenge: how to maintain cost control (and profitability) and, at the same time, meet new demands for service and flexibility.

The answer to this challenge is being refined in board-rooms, factories and distribution centres across ANZ. By comparing survey results from ANZ and Europe with those from the United States and Japan, it is clear that responsiveness is leading to an increased focus on:

- Customer-driven planning – synchronising supply, managing demand
- Effective order fulfilment through realtime order processing and logistics excellence, as measured by the "perfect order"
- Correctly identifying customer needs during product development; as well as managing product introduction to deliver the "perfect product launch"
- Procurement opportunities through global strategic sourcing and supplier collaboration.

What are the leaders doing?

The top supply chains appear to have a common trait: the ability to respond quickly to shifts in demand with innovative products and services, enabled by responsive processes and systems. These supply chains are better able to meet cost, responsiveness and profitability objectives, by developing supply chain models that are strategically driven and aligned to their business environment (including products, markets, suppliers and customers). They are also consistently measuring their supply chain performance based on key indicators, such as:

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

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**Scoring high on the supply chain maturity model – An Australian and New Zealand perspective**

<table>
<thead>
<tr>
<th>Figure 1. Top three objectives as rated by respondents (from a choice of eight) in each of the 2005 Value Chain studies conducted in the United States, Europe, Japan and Australia/New Zealand.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Top three objectives</strong></td>
</tr>
<tr>
<td>Improved responsiveness</td>
</tr>
<tr>
<td>Increased profitability</td>
</tr>
<tr>
<td>Reduced cost</td>
</tr>
<tr>
<td>Quality*</td>
</tr>
</tbody>
</table>

Note: *Quality was one of the top three objectives in the 2003 Value Chain Study. Source: IBM Institute for Business Value 2003 and 2005 Value Chain Studies.*
**Over to you**
Delivering on cost and profitability can be hard. Adding responsiveness may be harder. The chances are that if your company is not already facing these challenges, it will soon. This report presents the supply chain management progress of ANZ respondents as a whole and of the leaders in particular.

**Follow the leaders.**

**Introduction**
IBM Global Business Services carried out the 2005 ANZ Value Chain Study in conjunction with Logistics magazine. The study identifies current practices, captures significant trends and establishes operational performance benchmarks in four key areas of supply chain management: supply chain planning, order fulfilment (customer order management and logistics), new product development and procurement.

The study was conducted in November 2005, with survey questionnaires distributed to supply chain executives throughout Australia and New Zealand. It was structured into five separate surveys, one for each of the key supply chain areas, with order fulfilment having two – logistics and customer order management. Each survey included 18 to 27 questions covering business objectives, enabling technologies and current practices, as well as core performance data, such as the level of resourcing, cycle times and efficiency rates. There were a total of 348 survey respondents. The majority of these are in the consumer products and industrial products industries, with some limited representation from distribution and transportation, retail, services, high technology, pharmaceuticals and government.

This major research project was undertaken with support from the IBM Benchmarking Program, the IBM Institute for Business Value and APQC, a third-party research organisation. This study aims to provide perspective on where supply chain management is today and the direction in which it is evolving. The ANZ Value Chain Study is part of the global IBM value chain research programme, conducted in the United States, Europe and Japan in 2005. 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.

According to the ANZ Value Chain Study, supply chain executives’ top three objectives are:

- Reduced costs
- Improved responsiveness
- Increased profitability.

These three are the same three objectives of surveyed respondents from the United States, Europe and Japan – however, the relative priority is different. Increased profitability was the top objective for both the United States and Japan and the second priority for Europe. Responsiveness is a higher priority in Europe and ANZ.

To meet these multiple objectives, supply chain leaders understand that supply chain effectiveness must be more than efficiency and low cost. Supply chains are also an important driver of revenue growth and profitability, as well as the primary source of responsiveness – or a lack thereof. Many companies are evolving towards the on demand, customer-driven supply chain, as shown in Figure 2. The vision is an integrated end-to-end, customer-driven supply chain – integrated across the business and with key customers, partners, suppliers and service providers. Top-performing supply chain executives are actively adopting leading management practices, such as:

- Synchronising supply and demand through planning and forecasting
- Coordinating business functions horizontally across the supply chain
- Developing mutually beneficial outcomes to strengthen supply chain relationships
- Managing supply chain cycles – for example, for planning or for order-to-delivery
• Developing variable cost structures as alternatives to fixed costs
• Sharing information and risks with partners to reduce overall exposure
• Using realtime information to create responsive, customer-driven processes.

In this ANZ Value Chain Study report, we describe how companies in ANZ are responding to the challenge of cost control and responsiveness in four key supply chain areas. These areas are:

• Synchronising supply, managing demand: Customer-driven planning
• Effective customer order fulfilment: Perfect order attainment through realtime order processing and logistics excellence
• The perfect product launch: Product introduction and lifecycle management
• The procurement opportunity: Realising benefits through holistic sourcing.

We also make observations in relation to sustainability, transparency and the importance of data management. Effective data management is a key factor that underpins sustainable supply chain maturity in each of the four key areas.

In the remainder of this report, we examine each of these areas to provide insight into industry developments and leading supply chain practices.

**Synchronising supply, managing demand**

When companies move away from reacting to market conditions to take a more proactive stance, they can create a competitive edge for the whole business. Responsive supply chains can enable better market management, using order trends, actual demand and other data to provide early warnings of demand swings, identifying these as key forecasting and order management events. On the supply side, processes and systems can correlate and analyse information and recognise likely supply constraints and excesses, raising alerts to appropriate parties with exceptions and
companies to manage demand for existing and planned supply.

Demand-driven synchronisation of supply chain planning and execution activities enables companies to balance demand and supply. This is done in collaboration with suppliers and partners. In addition, customer service and inventory levels are optimised by continuously planning, in realtime, across organisational boundaries. The result is a feasible, synchronised plan that is consistent across organisations.

**Key survey findings**

Reduced cost, increased responsiveness and increased profitability are the top objectives of supply chain planning performance as cited by ANZ respondents (see Figure 3). Many supply chains have also been planned to make supply chain costs variable to align with revenues – this practice was widely adopted by 30 percent of respondents and somewhat adopted by 41 percent. The practice of realtime information transparency inside and outside the organisation (in support of planning) was adopted by over 70 percent of respondents (21 percent have widely adopted).

Companies are employing customer-focussed practices and measures to manage product delivery (for example, the “perfect order”), while managing the trade-off with the cost of inventory in the pipeline. Many companies are using continuous replenishment programmes to maintain customer-specified levels of products on the shelf and direct material inventories in supply. They are generally finding these programmes to be extremely effective (see Figure 4).

Inventory planning and deployment is primarily based on customer sales (69 percent) followed by volume (38 percent), region or geography (36 percent) and product grouping (33 percent). Few respondents (only 14 percent) use customer profitability as a determinant for inventory deployment, even though profitability is among the top objectives.

A third of the respondents are effectively using realtime, shared, electronic demand and inventory data to gain visibility of customer demand and to position themselves to collaborate with trading partners. In a totally integrated supply chain, customer point-of-sale or demand information is used within the customer-facing organisation to better plan and adapt production and other schedules in accordance with demand requirements. To further synchronise supply with demand, the customer forecast information is fed back to key suppliers.

![Figure 3. Which of the following does your site regard as the top three objectives?](source: IBM Institute for Business Value 2005 ANZ Value Chain Study.)
Most companies indicated that they are “rapidly” becoming responsive to changing market conditions (72 percent) and have realtime visibility inside and outside the enterprise (71 percent). Yet, when asked about collaborative planning initiatives, only 38 percent are implementing collaborative approaches with suppliers and only 33 percent with customers. Likewise, few are sharing visibility on inventory and demand with suppliers (31 percent).

As organisations seek to get closer to their customers and “pull” demand through their supply chains, an accurate picture of product demand is critical to increasing sales revenue, profitability and customer satisfaction, while reducing inventories and order cycle times. Demand planning, inventory planning and replenishment applications are used by more than 92 percent of respondents. The majority are using vendor packages, while 41 percent rely on internally developed software. Demand and supply planning is becoming much more organisationally integrated, with sales and marketing, finance, supply chain operations, information technology and even key external partners involved in the sales and operations planning processes.

Effective demand management can have a significant impact on new product introductions, as well as the decision to retire existing products. These issues (along with many others) must be considered by businesses every day when attempting to forecast demand: pricing, product mix, promotions and other factors that impact the delivery of products and services. Respondents indicated that forecast accuracy is being measured primarily by stock keeping unit (SKU), customer segmentation, and product family or grouping. Seventeen percent are measuring forecast accuracy at the market level.

Demand and supply planning and synchronisation often result in quantifiable supply chain performance improvement. Companies employing advanced demand planning techniques typically carry less inventory and are more likely to meet customer requirements for perfect order attainment. Also, they are generally more profitable. The ANZ Value Chain Study showed that, for two-thirds of companies, the customer lead-time is less than a week (see Figure 5). Finished goods inventory is turned more than 12 times a year by about 20 percent of firms, and the cash-to-cash cycle time is less than a month for nearly half of firms. Cost of quality has seen

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**Figure 4. 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>Continuous replenishment</td>
<td>22</td>
<td>47</td>
<td>31</td>
<td>91%</td>
</tr>
<tr>
<td>Returns management/reverse logistics</td>
<td>12</td>
<td>48</td>
<td>40</td>
<td>85%</td>
</tr>
<tr>
<td>Shared, realtime electronic demand/inventory data</td>
<td>19</td>
<td>39</td>
<td>42</td>
<td>77%</td>
</tr>
<tr>
<td>Inventory management at customer location</td>
<td>23</td>
<td>32</td>
<td>45</td>
<td>79%</td>
</tr>
<tr>
<td>Customer interaction with production</td>
<td>12</td>
<td>30</td>
<td>58</td>
<td>81%</td>
</tr>
</tbody>
</table>

Source: IBM Institute for Business Value 2005 ANZ Value Chain Study.
no significant improvement in the last three years; and only 39 percent of respondents achieve an on-time delivery rate above 95 percent.

Comparing the United States against ANZ for these leading indicators, customer lead-time, finished goods inventory turns and cash-to-cash cycles were similar. However, United States respondents had a higher on-time delivery rate, with 54 percent of companies achieving greater than 95 percent (with 44 percent achieving greater than 97 percent). Interestingly, the United States survey showed that, for 40 percent of respondents, quality costs are above 5 percent. This compares to only 16 percent of respondents in ANZ who had total quality costs greater than 5 percent.
What the leaders are doing to achieve demand and supply synchronisation

As companies evolve up the supply chain maturity model towards an on demand supply chain (see Figure 6), they are developing demand-driven extended supply chain networks. Many of the leaders are implementing the following practices:

- Collaborative demand planning with customers and suppliers
- Customer inventory planning and deployment programmes, including continuous replenishment and shared management of inventory
- Integrated sales and operations planning among functions within the organisation and across the extended supply chain network
- Specialised and differentiated supply chain strategies based on customer segmentation, customised service levels and strategic planning.

Key recommendations

While many companies may wish to move directly into collaborative planning ventures with external partners, aligning and integrating internal planning functions is a necessary first step. Once this is in place, companies can successfully implement integrated, collaborative planning processes with key customers, suppliers and service providers. These processes may involve multiple functions, including sales and marketing, supply chain operations, finance and IT.

Where possible, companies should use rapid data collection and analysis, coupled with responsiveness, to reduce their dependence on forecasts. Forecasts are rarely accurate. On the supply side, create the capability to be synchronised and adaptive by mastering integration and enabling rapid execution across the extended supply chain. Develop and utilise cost and profit performance models that help identify the best supply response, resolve problems quickly and leverage available supply chain flexibility.

Figure 6. Manage demand, synchronise supply – where are you on the supply chain maturity model?

1. Traditional On demand
   - Supply plans are mostly manually generated quarterly
   - No formal supply chain strategy – each function adjusts as they see fit
   - Frequent over- and understock conditions

2. Functional excellence
   - Different capabilities for each business unit
   - High inventory levels
   - System-generated demand/supply plans

3. Horizontal integration
   - Forecasts shared with some suppliers
   - Supply and demand plans automated and integrated across functions
   - Weekly planning processes
   - Business unit managers set planning objectives

4. External collaboration
   - Customer demand forecast/actual pull
   - Supplier partnerships for just-in-time responses
   - Daily planning processes

5. On demand supply chain
   - Customer demand changes automatically adjust purchasing, manufacturing and logistics plans
   - Shareholder value analysis based on cash-flow impact
   - Optimised bundled pricing and conditioned demand

Source: IBM Institute for Business Value analysis.
Effective customer order fulfilment

Customers are becoming more demanding. Their expectations are evolving towards greater levels of service and response with higher degrees of product and service customisation. Empowered customers expect on-time delivery, self-service with realtime order configuration and status information, and optimally priced product/service bundles. New customer and distribution channels are being created, enhanced by technological innovations and geographic expansion. Existing channels are under pressure and require constant change to retain market position. Customer satisfaction, continued sales growth and retention depend on accurate and efficient order management and fulfilment.

Key survey findings

Increased customer responsiveness and/or service is the top driver for customer order management functions, with continued emphasis on reduced cost and quality (see Figure 7).

The focus on increased customer responsiveness is reflected in 62 percent of respondents indicating that they have implemented formal customer classification. Predominantly, customers are classified by sales (34 percent), followed by unit volume (17 percent), and only 11 percent are classified by profitability.

Customer relationship management (CRM) practices influence customer demand and support increased revenue and profitability objectives, yet overall implementation of these principles is limited. The vast majority of firms differentiate services or pricing based on segmentation (see Figure 8). Customer self-service (84 percent) and customer focus groups (79 percent) proved to be the most effective CRM practices. Outsourcing of order management, in contrast, is very limited and was only effective for 27 percent of firms.

The primary channels for sales orders have changed very little over the last three years, with fax, mail and telephone remaining dominant. However, there has been a marked increase in the amount of electronic data interchange (EDI), Web EDI and e-mail orders processed.

Customer order management processes are strongly supported by IT systems, enabling supply chain transparency. Realtime processing is primarily in customer order entry (53 percent), customer order tracking (49 percent) and payment processing (44 percent). Interestingly, internally developed software dominates these processes. With a key principle of data management being systems integration, this may require involved system interface management. The firms surveyed reflect this, indicating that customer

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**Figure 7. Which of the following does your site regard as its top customer order management objectives?**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Percent Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased customer responsiveness</td>
<td>54</td>
</tr>
<tr>
<td>Reduced cost</td>
<td>41</td>
</tr>
<tr>
<td>Improved quality</td>
<td>35</td>
</tr>
<tr>
<td>Increased profitability</td>
<td>32</td>
</tr>
<tr>
<td>Increased revenue</td>
<td>21</td>
</tr>
<tr>
<td>Increased unit volume</td>
<td>19</td>
</tr>
<tr>
<td>Innovation</td>
<td>12</td>
</tr>
<tr>
<td>Reduced cycle time</td>
<td>12</td>
</tr>
</tbody>
</table>

Source: IBM Institute for Business Value 2005 ANZ Value Chain Study.
Following the leaders

Order management information is more fully integrated with financial systems and is integrated to a lesser extent with supply chain functions.

Key performance indicators in Australia and New Zealand are positive when compared to other geographies, but still leave room for improvement. Nearly half the companies have no missed sales caused by stock outs. The worst-performing 22 percent miss more than five percent of orders annually. Nearly half of firms surveyed retained less than 80 percent of customers within the past three years, a costly practice considering the price of obtaining a new customer is estimated at about ten times that of maintaining a current customer. Thirty-eight percent of respondents have zero returns on finished goods, while only 9 percent experience returns of more than 5 percent of sales. Thirty-seven percent of the cross-industry respondents require one hour or less to process sales orders, while more than 40 percent need more than 20 hours.

Today’s decentralised 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, personalisation and distributed responsibility. With improved visibility and fulfilment tools, the logistics function has become a key component of supply chain operations, helping to combat inefficiencies in warehouse labour, transportation and space utilisation, and inaccuracies in inventories and customer shipments. Implementing expanded, yet cost-effective, strategies for supply chain logistics has become a mission-critical objective.

As any shipper of products knows, transportation costs are rising. 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 9). Many are considering the placement and deployment of

![Figure 8](image-url)
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, which over 72 percent of the respondents are embracing.

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 fulfilment and visibility – designing and implementing processes and Internet-based technologies to provide visibility and realtime management of distributed order fulfilment across today’s complex, highly outsourced supply chains.

More than 80 percent of companies are finding that these practices are effective at meeting their objectives for increased profitability, cost containment and increased customer responsiveness/service.

For more than half of the ANZ respondents, logistics costs are below 5 percent of sales. This is moderate compared to Europe (with average costs of 16 percent of sales) and the United States (where logistics costs represent more than 10 percent of sales for half of the respondents). However, Japan has significantly lower logistics costs (see Figure 10).

![Figure 9. To what extent have the following logistics practices been implemented at your company?](image)

Source: IBM Institute for Business Value 2005 ANZ Value Chain Study.

![Figure 10. Comparison by geography of total logistics costs as a percentage of sales.](image)

Source: IBM Institute for Business Value 2005 Value Chain Study.
More and more companies are developing a variable, global network of logistics service providers to manage end-to-end logistics costs better, while providing greater levels of on-time delivery, fill rate and other customer performance expectations. They are outsourcing components of their overall logistics capabilities to transportation and distribution service providers. Transportation (inbound and outbound) continues to be the most frequently outsourced function (89 percent), with customs/export, warehousing and/or distribution centres (DCs) and transportation management services (TMS) following. Overwhelmingly, the respondents indicated that those outsourced functions are effective in meeting their desired objectives (transportation – 96 percent, customs/export – 94 percent, warehousing/DCs – 89 percent and TMS – 94 percent).

Effective customer order fulfilment 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 11). For more than 82 percent of the respondents, cycle times are below ten days. Seventy-one 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). Seventy-four percent of the respondents achieve OTD rates of 90 percent or greater, with the average OTD being 92 percent. In this survey, OTD was defined as scheduled delivery time versus the customer’s original request date.

**What the leaders are doing to achieve effective customer order fulfilment**

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 towards an on demand supply chain (see Figure 12), they develop robust, global logistics capabilities.

**Figure 11. Customer fulfilment performance.**

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

<table>
<thead>
<tr>
<th>Percent respondents</th>
<th>0-5 days</th>
<th>6-10 days</th>
<th>11-20 days</th>
<th>&gt;20 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>69</td>
<td>17</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>2005</td>
<td>61</td>
<td>13</td>
<td>5</td>
<td>13</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Percent respondents</th>
<th>0-90%</th>
<th>90.1-97%</th>
<th>97.1-99%</th>
<th>&gt;99%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>29</td>
<td>29</td>
<td>21</td>
<td>9</td>
</tr>
<tr>
<td>2005</td>
<td>41</td>
<td>41</td>
<td>39</td>
<td>6</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Percent respondents</th>
<th>0-90%</th>
<th>90.1-97%</th>
<th>97.1-99%</th>
<th>&gt;99%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>26</td>
<td>29</td>
<td>39</td>
<td>6</td>
</tr>
<tr>
<td>2005</td>
<td>29</td>
<td>29</td>
<td>39</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: IBM Institute for Business Value 2005 ANZ Value Chain Study.
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:

- Realtime visibility and event monitoring of customer, product and supply information throughout the supply chain
- Tightly integrating CRM with supply chain planning and execution processes
- Providing a single face to the customer across business units, with order configuration and dynamic pricing
- Integrating processes, end-to-end, with key service providers and other supply chain partners to provide differentiated customer segment product/service bundling and superior customer service levels
- Outsourcing of noncore logistical functions to third-party, leading logistics providers
- Managing the logistics network by monitoring events and exceptions.

**Key recommendations**

Customer order management and logistics are the front line of interaction with customers. However, the needs of different customers are becoming more varied; and each customer’s importance to the company is not the same. Therefore, a key first step in this area is to decide how customers and channels should be segmented and managed, and how customer order management and logistics need to be structured to accomplish this service strategy and control service costs. As in other supply chain areas, integration of internal and external functions is important to provide the requisite level of visibility (for control) and reliability.

**Figure 12. Effective customer order fulfilment – Where are you on the supply chain maturity model?**

Source: IBM Institute for Business Value analysis.
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 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 organisations increasingly leverage core capabilities of other companies, 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, organisations 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 profitable products and services that best fit customer requirements is clearly the top objective for new product development. Lower introduction costs and first-to-market strategies pale in comparison to bringing to market innovative products that meet customer wants and needs (see Figure 13).

Collaboration with customers to understand their requirements is the most widely implemented practice for new product development, followed by product commonality and reuse and integrated design with partners. The practices considered most effective are lifecycle cost management (cited by 96 percent of respondents) and integrated design with partners (cited by 91 percent). Identifying and meeting customer requirements is the primary challenge for remaining competitive. Over 42 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 standardisation of components. Reusing existing designs and other knowledge assets can help streamline the product development process and, at the same time, significantly improve product quality by standardising and reusing proven components and assemblies. A formal programme of commonality and reuse can also help reduce direct materials procurement costs, speed time-to-market and improve product quality.

Figure 13. What is the primary strategy for your site’s new product development efforts?

![Bar chart showing the primary strategy for new product development efforts.]

Best fit to customer requirements: 52%
Innovative product/service features: 31%
First to market: 8%
Low product/service cost: 8%
Other: 1%

Source: IBM Institute for Business Value 2005 ANZ Value Chain Study.
Innovation is primarily taking place in the area of new product introductions (34 percent) and to a lesser extent for existing products (27 percent). New customer markets and existing product extensions account for the remainder of efforts to generate new ideas. Overall, average time-to-market is decreasing for new product variations (see Figure 14). This seems to indicate that ANZ companies are becoming more efficient at new product development and more responsive to market requirements.

Historically, new product development efforts have concentrated on achieving on-time and on-budget targets. However, the 2005 ANZ Value Chain Study revealed that a significant proportion of respondents miss their product development schedule targets. Likewise, a significant proportion of respondents miss their product development budget targets (see Figure 15). Parallels can be drawn to what respondents consider as their most significant challenges in new product development. Best fit to customer requirements was ranked first (42 percent), while reducing time-to-market was ranked sixth (at 20 percent) and managing project costs was ranked third (at 33 percent).

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 towards an on demand supply chain (see Figure 16), they realise 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 componentisation and standards to develop variations on products at lower costs

- Outsourcing design and development activities for noncore products and/or components.

Key recommendations

The degree to which diverse businesses need to develop their innovation planning and execution capabilities will be different, and understanding the strategic role of new product development in the business and in the supply chain is an essential first step.

Deciding how to use internal versus external capabilities is the second step. Whatever the mix, integration of all involved parties is critical – particularly in the design phase. Rapid delivery of superior innovation of products/services with effective cost management is the goal for many companies. Getting there may involve some hard decisions about what to do where; for internal tasks, development of people skills may be required.

Figure 16. Perfect product launch – where are you on the supply chain maturity model?

Traditional

<table>
<thead>
<tr>
<th>1.</th>
<th>Ad hoc processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Formal processes, but vary by project/business unit</td>
</tr>
<tr>
<td>3.</td>
<td>Limited market research</td>
</tr>
<tr>
<td>4.</td>
<td>Cross-functional teams for design planning processes</td>
</tr>
</tbody>
</table>

On demand

<table>
<thead>
<tr>
<th>5.</th>
<th>Use of collaborative techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.</td>
<td>Componentised, reuse of design</td>
</tr>
<tr>
<td>7.</td>
<td>Standardised components</td>
</tr>
<tr>
<td>8.</td>
<td>Formal, integrated process with suppliers/providers</td>
</tr>
<tr>
<td>9.</td>
<td>Customers/suppliers involved in design</td>
</tr>
<tr>
<td>10.</td>
<td>Some coordination of lifecycle phases</td>
</tr>
<tr>
<td>11.</td>
<td>Synergies leveraged across enterprise</td>
</tr>
<tr>
<td>12.</td>
<td>Launches are well managed</td>
</tr>
</tbody>
</table>

Source: IBM Institute for Business Value analysis.
The procurement opportunity
Global sourcing patterns continue to shift dynamically in search of lower-cost sources. In addition, companies continue to rationalise and harmonise 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 – and a competitive necessity – for supply chain management.

To effectively analyse and manage total procurement spend, companies need comprehensive, enterprise-wide information, especially visibility into purchasing spend and behaviour patterns. Enterprises need operational and supplier performance measurements to effectively manage supplier relationships. Shifting to customer-driven supply networks requires collaboration – across the organisation and with partners – to better manage sourcing and spending, in order to achieve reduced procurement costs and enhance profitability and cash flow.

Key survey findings
Cost containment (77 percent), quality (49 percent) and responsiveness (46 percent) continue to be the major objectives for procurement and supplier management functions. Collaboration with suppliers and contract compliance are viewed as the key factors to achieve these objectives, followed by spend analysis and total cost of ownership (see Figure 17).

A leading indicator of procurement performance is maverick buying as a percentage of annual purchases. In ANZ, maverick purchasing is at an average level of 19 percent. In comparison, the average level of maverick purchases in Europe is 8 percent. In the United States and Europe, only 13 and 15 percent of respondents, respectively, had average maverick purchasing levels of greater than 10 percent. In contrast, 45 percent of ANZ surveyed respondents had levels of greater than 10 percent (see Figure 18). This confirms the importance of spend analysis and contract compliance initiatives to ANZ respondents to reduce cost.

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 componentisation and reuse.

Figure 17. What are the key initiatives underway to achieve your objectives?

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Percent respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier collaboration</td>
<td>43</td>
</tr>
<tr>
<td>Contract compliance</td>
<td>39</td>
</tr>
<tr>
<td>Spend analysis</td>
<td>36</td>
</tr>
<tr>
<td>Total cost of ownership</td>
<td>36</td>
</tr>
<tr>
<td>Global sourcing direct materials</td>
<td>34</td>
</tr>
<tr>
<td>e-Procurement/e-Sourcing</td>
<td>16</td>
</tr>
<tr>
<td>Global sourcing indirect materials</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: IBM Institute for Business Value 2005 ANZ Value Chain Study.
Global sourcing of direct materials is on the rise. Sourcing within Australia and New Zealand has remained relatively stable over the past three years, while direct material sourced from Asia has increased considerably. Imports from North America rose slightly, while imports from Europe decreased (see Figure 19). Global sourcing presents some difficult performance challenges for many industries – longer lead times, slower inventory turns and unpredictable delivery – often compounded by cultural issues.

As companies continue to seek qualified global sources to fulfil supply, many 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, where applicable. Thirty-three percent of the survey respondents use total cost as the key performance criterion in evaluating suppliers, followed by delivery, quality, capabilities and, finally, price, each cited by 10 to 15 percent of respondents. In comparison, for both the United States and Europe, TCO and price constituted 70 percent of respondents’ focus in evaluating suppliers. TCO was the top criteria for both Europe (47 percent) and the United States (59 percent), while the key criterion for Japanese respondents was price at 41 percent and TCO was third at 18 percent.

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 optimisation opportunities. About half of respondents already invest in procurement applications, while investment in online marketplaces, external supply chain integration and EDI is limited. Demand is strongest for supply chain integration technology and electronic payment systems. Specifically, respondents are making supplier management and procurement technology investments in electronic bill presentment and payment (30 percent), electronic receipt settlement (27 percent), Web-enabled e-procurement and e-sourcing (26 percent) and external supply chain integration (26 percent).

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It should be noted that the existing investment in external supply chain integration (with trading partners) is relatively low (17 percent) compared with internal supply chain integration (40 percent). This supports the view that poor visibility of spend and demand data is contributing to the contract compliance challenges faced by ANZ respondents.

Establishing global buying power through strategic sourcing involves creating supply relationships that help optimise potential value contribution by accurately matching demand requirements with supply 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 20).

**Figure 20. Supplier management and procurement performance.**

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

<table>
<thead>
<tr>
<th>Lead-time</th>
<th>Percent respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10 days</td>
<td>69</td>
</tr>
<tr>
<td>11-20 days</td>
<td>4</td>
</tr>
<tr>
<td>21-30 days</td>
<td>20</td>
</tr>
<tr>
<td>&gt;30 days</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lead-time</th>
<th>2002</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10 days</td>
<td>62</td>
<td>52</td>
</tr>
<tr>
<td>11-20 days</td>
<td>26</td>
<td>19</td>
</tr>
<tr>
<td>21-30 days</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>&gt;30 days</td>
<td>4</td>
<td>14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Delivery Rate</th>
<th>Percent respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-85%</td>
<td>62</td>
</tr>
<tr>
<td>85.1-90%</td>
<td>26</td>
</tr>
<tr>
<td>90.1-95%</td>
<td>8</td>
</tr>
<tr>
<td>&gt;95%</td>
<td>4</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Inventory Turn Rate</th>
<th>Percent respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 turns per year</td>
<td>24</td>
</tr>
<tr>
<td>5-12 turns per year</td>
<td>33</td>
</tr>
<tr>
<td>13-26 turns per year</td>
<td>33</td>
</tr>
<tr>
<td>&gt;26 turns per year</td>
<td>10</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Cycle Time</th>
<th>Percent respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1 hours</td>
<td>37</td>
</tr>
<tr>
<td>1-4 hours</td>
<td>16</td>
</tr>
<tr>
<td>4-24 hours</td>
<td>32</td>
</tr>
<tr>
<td>&gt;24 hours</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: IBM Institute for Business Value 2005 ANZ Value Chain Study.
Supplier lead times have improved, with 64 percent reporting stable and 22 percent citing decreasing lead times over the past three years. Over two-thirds of respondents now experience lead times of less than ten days. Study results also show a significant improvement in supplier on-time delivery, with 48 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 37 percent of respondents. Raw material inventory turns more than 12 times a year for 43 percent of firms.

**What the leaders are doing to deliver procurement benefits**

As companies evolve up the supply chain maturity model towards an on demand supply chain (see Figure 21), 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 programmes 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 recommendations**

Contract compliance is a fundamental building block of effective procurement – if it is not in place, further work on supplier and contract development may be nullified. Executing contract compliance requires a combination of policy, sponsorship and measurement. Measurement, in turn, requires data transparency.

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**Figure 21. Delivering procurement benefits – where are you on the supply chain maturity model?**

1. Static supply chain
   - Limited leveraged buying, unknown spend by commodity
   - No formal supplier relationships
   - No unsourced functions – all sourcing and procurement are in-house
   - No strategy for global sourcing

2. Functional excellence
   - Leverage buying within functions
   - Master contracts for key suppliers
   - Supplier management consolidated and centrally managed
   - No plans for global sourcing – next 12 months

3. Horizontal integration
   - Cross-functional leveraged buying, e-procurement applications
   - Service level agreements for key suppliers
   - Enterprise visibility of orders and inventory
   - Planning and identifying new sources of supply

4. External collaboration
   - Virtual, outsourced network
   - Visibility to supplier inventory, orders, forecasts and shipments
   - Global sourcing organization
   - Rationalized resources and sources
   - Manage by performance

5. On demand supply chain
   - Standard purchasing processes integrated with customers
   - Integrated supply network
   - Several procurement processes outsourced
   - Centralized sourcing organization

Source: IBM Institute for Business Value analysis.
In addition, procurement professionals must have the required category and supplier management skills; and they must clearly understand the need for procurement to engage with the business as part of a successful strategic sourcing programme. With strategic suppliers in particular, this programme should not only look at price and TCO, but also capabilities to share risk and be flexible and responsive.

**Sustainability, transparency and the importance of data management**

One thing that came across strongly through this study is the importance of data management – namely the timely and accurate collection, processing, storage and analysis of required information. From demand management to factory capacity management, from spend analysis (for procurement) to load building (for logistics), the volume and value of data has been growing at an increasing rate. Often, the effective management of this data is the key to sustainable supply chain performance. From this study, we have observed that, for example, the implementation of leading practices for supply chain visibility, inventory replenishment and collaborative planning is further advanced in ANZ than it is in the United States. However, looking more closely, the degree to which these processes have been automated (made electronic) paints a different story. For example, in the United States, 25 percent have adopted collaborative planning with customers, and within this group, 66 percent have not implemented this process electronically. In ANZ, 33 percent have adopted the process, but 76 percent have not implemented it electronically (see Figure 22). The question must be asked whether ANZ supply chains can sustain leading practices without further electronic data management.

Data management also underpins another essential for the responsive and on demand supply chain – transparency. If a company outsources logistics and then loses visibility of inventory, or of delivery performance, or of delivery capacity – outsourcing can easily lead to a poorly controlled and, hence, unresponsive supply chain. Timely, accurate and automated data flow is the life-blood that enables a multiple-partner supply chain to be both responsive and efficient.

**Recommendations for effective data management**

Key principles of data management include:

- Manage data throughout its lifecycle through automated data input filters and checks, and data processing controls (such as workflow systems) – do not tolerate dirty data.

![Figure 22. Indicate which of the listed business processes have been adopted at your site and if adopted how?](source: IBM Institute for Business Value 2005 Value Chain Study.)
• Use data standards to help ensure consistency and compatibility of different data types
• Structure data storage and data processing so that there is a “single source of truth” across all systems and processes
• Integrate systems appropriately to facilitate data flow in support of the end-to-end process.

Conclusion
Supply chain management has emerged from obscurity in the last few years. It is now recognised in corporate boardrooms as pivotal to business performance. In coming of age, the business demands on supply chains have also grown and now reflect a full range of dynamic business drivers and environmental complexities. In ANZ, the move to include off-shore suppliers is already well-advanced. The added dimension of responsiveness introduces further challenges, including potential deterioration of cost and profit performance. Integration with both internal constituents and external partners – such as contract manufacturers or suppliers – has now become a critical competency.

Companies are moving towards 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 – indeed, managing the ever-growing streams of information that drives supply chains has become another critical competency.

The 2005 ANZ Value Chain Study indicates that many companies’ supply chains are taking on these challenges and opportunities. Others still have significant room for improvement in delivering high performance with increased responsiveness. This study presents an opportunity for them – to follow the leaders.

About the authors
Tom Sherlock is a Managing Consultant in the Australian Supply Chain Management Practice, IBM Global Business Services. He can be reached at tom.sherlock@au1.ibm.com.

Matina Zervos is a Senior Consultant in the Australian Supply Chain Management Practice, IBM Global Business Services. She can be reached at matina.zervos@au1.ibm.com.

Karen Butner is the Global Supply Chain Management Leader for the IBM Institute for Business Value, and an Associate Partner in IBM Global Business Services in the United States. She can be reached at kbutner@us.ibm.com.

Dietmar Geuder is a Senior Consultant within the IBM Institute for Business Value Supply Chain Management Team. He can be reached at geuder@de.ibm.com.

Contributors
Claus Jensen, Partner and Leader of Australia and New Zealand Supply Chain Management Services, IBM Global Business Services. He can be reached at claus.v.jensen@au1.ibm.com.

Craig Rawlings, Associate Partner in the Australian Supply Chain Management Practice, IBM Global Business Services. He can be reached at rawlings@au1.ibm.com.

Andrew Tubb, Associate Partner in the New Zealand Supply Chain Management Practice, IBM Global Business Services. He can be reached at andrew.r.tubb@nz1.ibm.com.
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