Creating Competitive Advantage Through the Supply Chain: Insights on India

A.T. Kearney study for CSCMP India
May 2013
About the Study

Business leaders worldwide expect their supply chains to help them capture competitive advantage, and now leaders in India expect the same from their India supply chains. But the country has some unique challenges that make it difficult to improve supply chain quality and performance. So when companies in various sectors deploy successful supply chain strategies in India—the kind that deliver competitive advantage—it is well worth finding out how they do it.

To develop this understanding, the Council of Supply Chain Management Professionals (CSCMP) in India and A.T. Kearney embarked on a first-of-its-kind joint study to answer three questions:

- How do organizations define supply chain success today?
- What are the specific challenges they face in India?
- What practices do they deploy to overcome these challenges and thus succeed?

This report highlights our findings. It blends A.T. Kearney’s experience of helping organizations in India transform their supply chains with insights gained in one-on-one conversations with some 30 C-level executives and senior-level supply chain professionals from multiple industries, including logistics services providers. The findings point to best practices in supply chain performance and the enablers for applying these practices and gaining competitive advantage.

It is our hope that this report provides practical, substantive ideas and ways to begin your supply chain transformation journey—one that delivers an immediate impact and a longer-term competitive advantage.

CSCMP, India | A.T. Kearney
Executive Summary

Greater and more intense competition and global value chains are leading to substantial shifts in what is expected of the supply chain function. It is no longer enough to simply connect supply and demand at optimal cost and service levels. Today’s business leaders are demanding more from their supply chains, including competitive advantage.

Coupled with India’s unique operational challenges, such expectations make the role of a supply chain professional extremely complex. Yet there are examples of organizations across industries that have managed to move beyond the constraints in India to develop supply chains that lead to competitive advantage. How do they do it? What are the challenges, and how do they get beyond them? How do they define supply chain success?

Based on A.T. Kearney’s experience helping organizations in India and one-on-one conversations with C-level executives and senior-level supply chain professionals in the country, there are seven supply chain best practices—or themes—that successful organizations across India are using to gain competitive advantage. These themes, summarized here, are a must for every supply chain professional who wants transformative change.

Collaborate to virtually integrate the value chain. Competition today is between value chains, and every value chain is only as strong as its weakest link. Collaboration can be at three levels: across functions, across the value chain, and beyond the value chain. The first is a given and is assumed to be taking place, while all leading organizations are collaborating across the value chain, and some are doing so beyond the value chain. For collaboration to work, it must be led by the dominant player, based on a win-win partnership with shared goals, and focused on the long term with clear markers for success.

Replace one-size-fits-all with a tailored approach. Organizations in India are more diverse than ever. So taking a one-size-fits-all supply chain approach does nothing more than compromise segment-specific needs. Leading organizations employ differentiated approaches to manage their distinct product and market needs. Supply chains can also be virtual, with different inventory norms and product flows, while sharing the same physical assets, such as factories and warehouses. Clustering segments to capitalize on scale, identifying metrics for each segment, and communicating to align all stakeholders will help ensure success.

Plan more frequently and across multiple horizons. Supply chain managers must be ambidextrous—able to see the big picture while also focusing on the details. The key to doing both is in frequent and multi-horizon planning sessions: weekly reviews for short-term planning, and regular reviews for long-term planning. Among the chief enablers is a single-demand forecast for the entire organization, using total cost optimization for capacity planning and scenarios for risk assessment.

Implement pull replenishment across the value chain. To deal with pressure on costs and services, leading supply chain organizations implement pull replenishment strategies across their entire value chains from customers to vendors. Doing so requires a solid information infrastructure, regular inventory calibration, and the removal of artificial demand distortions.

Actively manage complexity. Broader product portfolios, shorter product life cycles, and more-demanding consumers all contribute to greater supply chain complexity. The best supply chain strategies integrate complexity management in all planning processes to prune that which is non-value added and capitalize on that which is value added. Making complexity a criterion in
the new product development process, assessing the entire value chain, and developing a cost-of-complexity database are all important enablers.

**Let business needs drive technology and automation choices.** Technology and automation are becoming integral to overcoming challenges in India. The rising cost of labor, coupled with worker availability issues, makes automation an attractive option, while technology is necessary to reduce complexity and improve information sharing, processing, and analysis. Leaders employ technology and automation thoughtfully and tailor it to their business needs.

**Reconfigure the supply chain organization to include business management capabilities.** The shift in supply chain expectations calls for a fundamental rethink of the capabilities required of the supply chain. Today's organizations need to have a suite of business management skills in addition to their supply chain skills. Supply chain leaders take steps across all stages of talent management by investing in and actively managing their workforce needs. It is also wise to anticipate the need for different skills and develop talent through cross-functional approaches and customized training programs.
Senior Leaders Expect More from Their Supply Chains

More competition and maturing value chains are leading to a substantial shift in what is expected of the supply chain function. Gone are the days when supply chain meant managing logistics and warehousing. Even connecting supply to demand at optimal cost and service levels is becoming a hygiene factor as C-level executives increasingly demand that their supply chains provide a competitive advantage (see figure 1).

This shift in expectation forces supply chain managers to focus on the entire value chain (because the chain is only as strong as the weakest link). It has also led to supply chains becoming a regular topic of conversation at the CEO and board level with supply chain managers expected to deliver on a much wider set of metrics beyond the traditional cost and service levels (see figure 2).

Source: A.T. Kearney analysis

### Figure 1
**Top supply chain agenda**

- **Provide competitive advantage**: 42%
- **Increase cost efficiency**: 24%
- **Deliver high service level**: 20%
- **Improve quality**: 14%

Percentage responses for CXOs’ top supply chain agenda

Source: A.T. Kearney analysis

### Figure 2
**Changing expectations from supply chain**

<table>
<thead>
<tr>
<th></th>
<th>Traditional</th>
<th>Current</th>
<th>Emerging</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ask</strong></td>
<td>• Connect supply to demand</td>
<td>• Meet customer requirements</td>
<td>• Create competitive advantage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>at optimal cost</td>
<td></td>
</tr>
<tr>
<td><strong>Approach to supply</strong></td>
<td>• Functional optimization</td>
<td>• Intra-organizational</td>
<td>• Value chain optimization</td>
</tr>
<tr>
<td><strong>chain management</strong></td>
<td></td>
<td>optimization</td>
<td></td>
</tr>
<tr>
<td><strong>Level at which</strong></td>
<td>• Department head</td>
<td>• CXO</td>
<td>• CEO and board</td>
</tr>
<tr>
<td><strong>supply chain</strong></td>
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</tr>
<tr>
<td><strong>discussed</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>Focus metrics</strong></td>
<td>• Supply chain cost</td>
<td>• Service level and</td>
<td>• Customer satisfaction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cost to deliver</td>
<td>• Service level and cost</td>
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<td></td>
<td></td>
<td></td>
<td>• Responsiveness</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Delivered quality</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Speed to market and freshness</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Sustainability</td>
</tr>
</tbody>
</table>

Source: A.T. Kearney analysis
Responsiveness is becoming an important focus area for organizations in India. The ability of the supply chain to respond to a sudden demand increase or an unanticipated supply disruption provides an opportunity to capture new customers from competitors. For example, the speed with which one consumer products company ramped up the production of hand sanitizer in response to a regional flu outbreak allowed them to gain market share. Similarly, automakers that recover from supply disruptions faster than their competitors can gain share.

Another important focus area for supply chains is speed to market or freshness. In technology-led products, trumping the competition with better features and benefits can have a big impact on market share. Increasingly, in food and other consumption products, freshness is becoming a priority for consumers. Players with fresher products on the shelf are gaining substantial market share.

Supply chains are also increasingly measured on delivered quality. It is no longer enough to deliver products complete and on time. Today’s customers expect high-quality products.

In addition, sustainability, a focus area globally, will become an important area in India in the near future.

Supply Chains in India Face Specific Challenges

While meeting these changing expectations, India’s supply chain managers need to overcome challenges across three dimensions: the changing business context, the policy and regulatory environment, and ecosystem limitations (see figure 3).

Figure 3
Supply chains in India operate in a challenging environment

Source: A.T. Kearney analysis
Businesses in India operate in a fast-changing environment

**Improved global connectivity—“No longer insulated.”** India’s businesses are now more global. India’s international non-oil trade has grown from 19 percent to 34 percent of gross domestic product over the past 10 years.¹ The supply chains are integrated with external supply chain networks as they source from or deliver to global organizations. As a result, they need to manage longer cross-country supply chains and plan for risks arising from global events. For example, floods in Thailand in 2011 reduced the Indian operations of an automaker to 20 percent of full capacity for about two months, with implications for market share.

**More-demanding consumers and customers—“Growing expectations.”** With rising aspirations and increased awareness, consumers are more demanding. Consumer complaints have grown by 9 percent CAGR over the past two years.² They want greater variety, superior quality, the latest features, and much higher service levels. Business-to-business (B2B) customers are demanding ever-improving service levels and transparency on delivery times. Organizations have to meet these demands, which requires managing a wider product portfolio while improving service and quality.

**Rising inputs costs—“The new reality.”** Inflation has been high, with sharp rises in the cost of major inputs in recent years. Crude oil prices have increased by 15 percent CAGR in the past five years.³ Manpower costs have grown at 12 percent CAGR in past two years.⁴ These price hikes, coupled with the value-conscious Indian consumer, force supply chains to focus on efficiency.

**Increasing demand and supply volatility—“Here to stay.”** Historically, forecasting commodity prices was easy. For example, agricultural commodities used to depend mostly on acreage, weather, and yield. But over the past few years, several wild cards, such as increasing growth in emerging economies, geopolitical issues, and speculators, have caused greater commodity volatility (see figure 4).

On the demand side, the combination of increasing competitive intensity and consumers’ propensity to experiment with new products has amplified uncertainty and reduced product life cycles. Managing such volatility requires supply chains to be more flexible.

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**Figure 4**

**Growing volatility**¹

![Growing volatility graph](image)

¹ Three year rolling standard deviation as a percentage of mean of daily changes in MCX indices
Source: A.T. Kearney analysis

¹ Reserve Bank of India
² Ministry of Consumer Affairs
³ Multi Commodity Exchange of India Ltd. (MCX)
⁴ Aon Hewitt
Diverse consumer base—“Difficult to ignore.” A broad spectrum of consumers is driving growth in India, in urban and rural areas and across all socioeconomic categories. Being a substantial player requires catering to most of these segments, which have differing needs and varying ease of reach.

Evolving policies and regulations

The implementation of forward-looking regulatory changes has been slow in India. For example, commissioning a manufacturing facility takes a minimum of 20 approvals. Supply chain functions have been anticipating the rollout of the national value-added goods and services tax (GST), which will enable the supply networks to be “operationally optimized” instead of “tax optimized” and could reduce supply chain complexity.

In addition, complex procedures for capacity setup require advance planning to meet growth needs. However, because planning too far in advance results in low utilization and higher costs, organizations need to walk a fine line here.

Ecosystem limitations

Bottlenecks in infrastructure—“To remain in the medium term.” Infrastructure in India still lags rapidly growing business needs despite significant investments. The country is among the fastest-growing economies but ranks 95th on road quality and 82nd on port infrastructure. Average truck speeds in India (30 to 35 kmph) are half that of China’s (70 to 75 kmph). Average turnaround time at Indian sea ports is four days compared to six hours in Singapore. Such bottlenecks necessitate a higher system inventory, which adversely affects speed to market, product freshness, and supply chain cost.

Fragmented service providers—“Nascent capability.” Third-party logistics services in India are still few and far between and account for only 9 percent of business compared to 80 percent in Japan and 60 percent in the United States. While some regional specialists are emerging, there are few pan-India operators. The available players lack capability in multiple areas, including specialty products such as hazardous chemicals and management of complex retail warehousing operations. Eighty percent of trucks are operated by small fleet owners with fewer than five trucks.

Similarly, there is a shortage of reliable contract manufacturers. These shortcomings limit an organization’s ability to deploy capacity flexibly and, in many instances, mean it has to create its own capabilities, which results in high fixed investments.

Shortage of talent—“At all levels.” Despite the 13 million people added every year to the working-age population, talent at all levels is scarce, partly because of the lack of education infrastructure. Only about 2 percent of Indian workers receive formal vocational training. In addition, organizations have failed to focus on building supply chain managerial capability; for too long, the priority has been on front-end functions, such as sales and marketing. Thus, while supply chains need to build competitive advantage, many supply chain teams do not have the capability to achieve it.

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5 Maharashtra Industrial Development Corporation  
7 Department of Economic Affairs  
8 Indiastat database and A.T. Kearney  
9 Ministry of Road Transport and Highways  
10 National Skills Development Corporation
What Are the Leaders Doing to Create A Competitive Advantage?

Greater expectations, a dynamic business environment, and challenges unique to the country make the job of a supply chain manager in India quite demanding. Nevertheless, many organizations have created successful supply chains that give them a competitive advantage. Our study, which is based on our work with Indian clients and on in-depth conversations with nearly 30 C-level executives and senior supply chain practitioners in India, identified a number of practices that leading organizations are adopting. Seven themes stand out (see figure 5).

Collaborate to virtually integrate the value chain

In an intensely competitive environment, superior value chains succeed. Collaboration is a good way to improve the value chain. This can occur on three levels: across functions, across the value chain, and beyond the value chain (see figure 6). Collaboration across functions is an essential practice today; we came across multiple organizations in India collaborating across the value chain and some going beyond the value chain. In fact, collaboration is being used to
address a range of challenges in India, from demand and supply volatility and improving time to market to managing cost pressures and reaching remote corners of the country (see figure 7).

Supply chain functions in leading organizations participate from the “go-concept” stage of new product development to ensure faster time to market. Several automakers have led collaboration with suppliers for new product development to cut development lead times, reduce budgets, and develop functionally efficient solutions. Similarly, consumer goods companies have led collaboration on the front end with their distributors.

Figure 7

**Examples of successful collaboration in India**

<table>
<thead>
<tr>
<th>Business need or challenge</th>
<th>Approach and result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed to market</td>
<td>Consumer packaged goods companies are involving supply chain managers right at the “Go-concept” stage of new product development to factor in supply chain constraints and initiate supply chain design early, enabling faster time to market</td>
</tr>
<tr>
<td>Poor vendor capability</td>
<td>A chemical company entered into long-term agreements with a few transportation vendors, upgrading their truck infrastructure which has resulted in greater transportation safety and significantly improved reliability</td>
</tr>
<tr>
<td>Demand volatility</td>
<td>A consumer good company is collaborating with its dealers to capture daily retail sales information and jointly developing weekly demand forecast leading to a superior service level and fresh products in the market</td>
</tr>
<tr>
<td>Increasing geographical reach</td>
<td>A telecom company is leveraging the rural distribution infrastructure of a fast-moving consumer goods company which improves channel partner viability and benefits both organizations</td>
</tr>
<tr>
<td>Cost inflation</td>
<td>Telecom service providers are sharing their tower infrastructure which reduces operating costs</td>
</tr>
</tbody>
</table>

Source: A.T. Kearney analysis

Three actions drive successful collaboration:

**Ensure the dominant player leads collaboration efforts.** All the successful collaborations in our study were led by the dominant player in the value chain. For example, a durable goods manufacturer led the collaboration with its dealer, and a chemical manufacturer led the collaboration with its transportation vendor. While this seems obvious, few take this value-chain view that offers a significant edge over competitors.

**Structure a win-win partnership with shared goals.** Collaboration needs to be a win-win for everyone. Successful organizations clearly identified and articulated the mutual benefits of collaboration. Although deploying a dedicated new truck fleet meant higher costs for one organization (compared to market rates), improved reliability helped the company operate at a substantially lower inventory and achieve better service levels, which more than paid for the added costs. For the transporter, having a long-term steady business (rather than regularly competing for market placement) helped cut operating costs.

**Take a long-term view with clear markers for success.** Almost all successful collaborators experimented with their models a few times before hitting the sweet spot. Willingness to stay the course and continue experimenting is important. Effective collaborations incorporate year-on-year improvements on well-defined metrics along with a gain share model. Working with a few partners is another crucial factor.
Replace “one size fits all” with a tailored approach

Organizations in India now have much more diverse product portfolios, geographic coverage, margin profiles, and channel coverage. Managing this diversity with a one-size-fits-all approach compromises segment-specific needs. Many organizations have sufficient scale to consider multiple supply chains. For example, the number of publicly listed companies with revenue of more than $1 billion increased from about 110 in 2009 to about 170 in 2012.

While a segmented supply chain is not a new concept (traditionally, products with different characteristics had different supply chains, such as liquid versus bulk versus packaged), leading organizations are now deploying a differentiated approach to manage distinct product-market segments. Leaders synthesize parameters to identify unique segments for configuring their supply chains (see figure 8).

Figure 8
Best Innovators drive above-market share price, revenue, and earnings growth

Identify segments with diverse requirements and design supply chain elements to suit segment needs

Illustrative

Supply chain design elements

<table>
<thead>
<tr>
<th>Parameter 1 (Volume)</th>
<th>Parameter 2 (Gross margin)</th>
<th>Parameter 3 (Customer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Low</td>
<td>...</td>
</tr>
<tr>
<td>High</td>
<td>High</td>
<td>...</td>
</tr>
<tr>
<td>High</td>
<td>Low</td>
<td>...</td>
</tr>
</tbody>
</table>

- Stock aggregated at upstream point in supply chain
- Continuous replenishment
- Inventory reservation
- Responsive logistics, such as less than truck load, courier
- ...

*Source: A.T. Kearney analysis*

Organizations across a variety of industries are deploying tailored supply chains to manage the challenges, from delivering better service at a lower cost to managing complexity (see figure 9 on page 12).

Tailoring can also be virtual with, for example, differentiated inventory norms and product flow paths while sharing the same physical assets, such as factory and warehouse.

Leading organizations effectively tailor the supply chain in three ways:

**Cluster segments to achieve adequate scale.** Not having a one-size-fits-all supply chain does not mean having numerous supply chains. Before configuring multiple supply chains, each segment needs sufficient scale for optimal delivered costs. Clustering similar segments is a useful way to manage both optimal delivered cost and the number of supply chain segments.
Articulate focus metrics for each segment. Clearly defining focus metrics for each segment and making sure it meets end customers’ needs are other important enablers. Articulating metrics helps define what each segment will—and, more importantly, will not—focus on.

Communicate to align all stakeholders. Finally, it is important to have clear alignment with internal and external stakeholders about the segmented supply chain approach through clear communication of the supply chain objectives and trade-offs in each segment.

India’s international non-oil trade has grown from 19 percent to 34 percent of gross domestic product over the past 10 years.

Plan more frequently and across multiple horizons

The increasing global integration of India’s supply chains calls for an understanding of major global trends and their implications. At the same time, increased demand volatility requires a close eye on the market. In essence, supply chain managers in India need to have both a big-picture view and a sharp eye for detail. Leaders address this challenging task by adopting more frequent and multi-horizon planning.

Almost all organizations have a rolling monthly planning process with some long-term view (either the remaining months of the year or a period of between three and six months). In practice, though, the focus tends to be on the immediate month or, at best, the coming quarter.
Leaders, while still following this broad structure, are making a few crucial changes to their planning process (see figure 10).

**Move to frequent reviews.** Leading organizations in India are reviewing demand and making adjustments to upstream plans (production and dispatch) on a weekly basis, which enables them to keep a much closer eye on actual demand and better manage demand volatility.

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**Figure 10**

**Components of multi-horizon planning**

<table>
<thead>
<tr>
<th>Planning horizon</th>
<th>Planning frequency</th>
<th>Key objectives</th>
</tr>
</thead>
</table>
| Long-term (1–4 years) | Rolling half-yearly or annually | • Unconstrained long-term supply chain design (capacity and capability) to meet business objectives  
• Identify risks and develop mitigation plans |
| Medium-term (3–12 months) | Rolling quarterly | • Elimination of bottlenecks in specific operations to release short- and medium-term capacity  
• Medium-term capacity expansions (for example, contract manufacturing, warehouse expansions, fleet planning, and so forth) and inventory strategy |
| Short-term (4–12 weeks) | Rolling weekly | • Dispatch plan and production schedule incorporating:  
— Real-time sales trends (velocity and acceleration)  
— Local promotional uplifts  
— Competitive actions  
— Supply disruptions  
— ... |

Source: A.T. Kearney analysis

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**Embed longer-term planning at regular intervals in the planning cycle.** While weekly reviews help in managing demand volatility, leading organizations also regularly review their medium- and long-term capacity plans. Medium-term plans are typically reviewed once a quarter and long-term plans every six months, which allows organizations to better adjust their capacity additions and avoid excess capacity or lost sales.

We witnessed a variety of companies deploying these principles to overcome India’s challenges (see figure 11 on page 14).

Successfully implementing frequent multi-horizon planning requires three components:

**A single-demand forecast for entire organization.** Most organizations today operate with multiple forecasts, such as a sales forecast, then a sales stretch or, for multinational corporations, a forecast for the head office. Each function uses a different number, which causes significant planning issues. Leaders work with a single number that is aligned with all functions.

**Total cost optimization model for capacity planning.** Leaders develop and use a total cost optimization model, leveraging techniques such as linear and mixed integer programs to take medium- and long-term capacity decisions. Total cost includes all relevant costs—variable costs for short- to medium-term optimization, and fixed and variable costs for long-term planning.

**Integration of scenario-based risk assessment in planning.** Leading companies develop different scenarios and use a what-if approach to assess the potential impact on their supply chains. Scenario planning broadens the field of vision and helps capture risks, assess the likely
impact, and develop plans for mitigation. This process improves the supply chain’s preparedness for facing disruptions.

**Implement pull across the value chain**

Ongoing pressure to reduce costs and improve service is a reality for all organizations in India. Pull replenishment across the value chain is one way to achieve this.

Pull replenishment is practiced only in parts of the value chain. For example, consumer packaged goods companies in India have moved to demand-driven replenishment for their customers. Automakers have been practicing kanban-based replenishment for their parts for some time now. Leading organizations are now adopting pull across their value chain from customers to vendors (see figure 12 on page 15).

Pull replenishment is not a panacea. Leaders identify its applicability using demand variability and time window of demand (see figure 13 on page 15). Pull is not appropriate for new products or products with a very short time window relative to replenishment lead time, such as for seasonal products. Centralizing inventory and allocation using forecasts are suitable for such instances.

An effective pull replenishment system has three requirements:

**Build a good information infrastructure.** An integrated IT system, with customers and suppliers that provide transparency on available stocks and demand changes, makes pull implementation easy.

**Regularly calibrate inventory norms.** To factor in demand changes, routine updates are needed for inventory norms across all nodes in the supply chain using pull replenishment. Leaders adjust inventory norms daily through scheduled updates in their IT system using simple moving-average data of actual demand and its rate of change.

**Remove artificial demand distortions.** While natural demand skew as a result of consumer buying cycles can be planned for, the artificial demand skews from inappropriate sales metrics or...
### Business need or challenge | Approach and result
--- | ---
High service levels at low cost | • A consumer goods organization successfully implemented end-to-end pull (customer to vendor) to reduce overall system inventory by 20 percent while improving service level by 10 percentage points  
  — Replenishment between distribution center (DC) and distributor based on actual sales to retail  
  — Actual stock-based trigger for replenishment between factory and DC  
  — Vendor-managed inventory system for key input materials  
• Continuous replenishment system (replenishment triggered by actual inventory at customer vis-à-vis a pre-defined norm) has been implemented by various companies to service their direct distribution network. Leading consumer goods companies are implementing initiatives to bring inventory at customer to as close to zero as possible, using a flow-through concept to retail  
• A leading consumer goods company adjusts its inventory norms across all nodes on a daily basis based on velocity and acceleration of daily demand and plans the replenishment quantity thereby achieving high service levels and low inventory cost  
• Auto companies have successfully implemented vendor-managed inventory (VMI) aided by having their vendors located in their vendor park. Increasingly, other industry players are implementing VMI with their main suppliers

### Figure 12
**Examples of pull replenishment in India**

| Source: A.T. Kearney analysis |

| Source: A.T. Kearney analysis |

### Figure 13
**End-to-end pull applicability matrix**

| Sales window | Volatility |
| | Low | High |
| Long (for example, regular products) | End-to-end pull replenishment | Implement end-to-end pull based on other parameters (replenishment lead time, cost of lost sales, and so on) |
| Short (for example, perishable, promotional, seasonal) | Allocation based on forecast | |
promotions and channel incentives confound pull efforts. To overcome this problem, leaders are switching to measuring end-consumer sales (rather than channeling) for sales team incentives, adopting more frequent sales closing (such as weekly instead of monthly), and moving to non-distortionary promotions and channel incentives.

**Proactively manage complexity**

Widening portfolios, shrinking product life cycles, and more-demanding consumers are increasing supply chain complexity. For example, every month, about two new mobile handset models are rolled out in India. Similarly, the number of small passenger car offerings increased from nine in 2007 to about thirty in 2012.

Leaders proactively manage complexity by integrating complexity management in their planning process and using a data-based approach. While they do aggressively prune non-value added complexity, they focus equally on improving value-added complexity (see figure 14).

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*Figure 14*

**Approach for managing complexity**

<table>
<thead>
<tr>
<th>Step 1: Map complexity across value chain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
</tr>
<tr>
<td>Level 3 technology</td>
</tr>
<tr>
<td>----------------</td>
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<tr>
<td>45</td>
</tr>
</tbody>
</table>

- **Step 2: Determine action required** (for example, portfolio)
  - **High Strategic Importance**
    - **Improve profitability**
      - Capture cost of complexity in the pricing
    - **Maintain and grow**
      - Maintain and improve position in the marketplace
  - **Low Strategic Importance**
    - **Review and harmonize**
      - Review the need for these products and harmonize production
    - **Maintain and monitor**
      - Continue with constant focus on increasing “strategic value”

- **Source:** A.T. Kearney analysis

Leaders identify and manage complexity across the value chain from the product portfolio and supply chain network to unique manufacturing processes and the vendor base. Enforcing one-in-one-out for product variants, having preapproved input specifications, and adopting platform strategies are ways to manage portfolio complexity. Organizations are moving toward fewer and larger facilities to reduce network complexity. Implementing GST will provide another
impetus to this. Organizations are beginning to use large integrated service providers instead of multiple small service providers, thus reducing interface complexity. Leading organizations also consolidate their customer and vendor base, enabling them to deploy collaborative planning techniques with their value chain partners and in the process improve service levels and delivered costs (see figure 15).

![Figure 15](image.jpg)

**Examples of proactive complexity management in India**

<table>
<thead>
<tr>
<th>Business need or challenge</th>
<th>Approach and result</th>
</tr>
</thead>
</table>
| Increasing product variety to meet consumer needs | • Auto companies share a common platform across models to minimize “below the skin” complexity  
• A packaged food company reduced “below the skin” complexity by standardizing the preservatives used in its product portfolio. Consolidation helped in optimizing inventory across the value chain and bringing scale benefits in purchasing  
• A consumer goods company adopted late customization by shifting promotion bundling operations to warehouses near customers, thereby improving service levels |
| Multiple stock holding locations to optimize tax | • Multiple warehouses are a need for most industries, to optimize tax in a pre-goods and services tax scenario. To reduce their complexity, companies are engaging regional third-party logistics service providers to handle their warehousing and transportation to customers |
| Fragmented vendor base | • A fast-moving consumer goods company is sourcing from a mega distributor to reduce direct transactions with smaller vendors. Mega distributor consolidates the volumes, resulting in lower logistics costs and better inventory  
• An automotive company has co-invested in a logistics service provider to handle their entire in-bound logistics rather than typical multi-vendor model followed by the industry. This leads to very high reliability of in-bound transportation and low raw material inventory |

Source: A.T. Kearney analysis

Late customization as a means of providing a variety of options without necessarily increasing the cost of managing variety is being more widely adopted.

Effective complexity management requires three important actions:

**Make complexity a criterion in new product development.** Applying a complexity lens at the new product conceptualization stage ensures that non-value adding complexity does not enter the value chain.

**Assess the entire value chain for complexity.** While “above the skin” complexity, such as product or packaging variety, is easily perceived, it is equally important to have a good understanding of “below the skin” and value-chain complexity, including variety in components, ingredients, vendors, and manufacturing processes. Leaders regularly develop an end-to-end value chain complexity funnel to manage their complexity efforts.

**Develop a cost of complexity database.** The toughest challenge in managing complexity is measuring its cost. There are direct costs, such as manufacturing changeover and storage costs, and hidden costs, including poor service, low employee productivity, and sales, general and administrative costs. Engaging in an objective and meaningful discussion about complexity management hinges on tracking each cost and tying it to its source.
Ensure business needs drive technology and automation choice

Rising labor and rental costs, coupled with labor availability issues, are increasing the attractiveness of automation. More complexity across the value chain is making technology essential for information sharing, processing, and analysis. Tracking goods, transaction processing, planning and decision support, and automation in handling and operations are principal areas in which technology or automation is deployed today (see figure 16).

There are multiple instances of organizations in India deploying technology and automation to manage specific challenges (see figure 17).

Figure 16
Areas of technology and automation adoption in supply chain

Source: A.T. Kearney analysis

Figure 17
Examples of successful adoption of technology and automation in India

Source: A.T. Kearney analysis
Leaders deploy technology and automation thoughtfully and tailor it to their business needs (see figure 18). For example, they assess the variety and volume needed to handle an appropriate level of warehouse automation. Cement or commodities organizations with little variety in finished goods do not need sophisticated warehouse management system, but the warehouses of e-commerce businesses handle a large variety of stock-keeping units (SKUs), which requires a sophisticated warehouse management system. A pharmaceutical finished goods warehouse would not require much material handling automation, but bulk commodities would require substantial automation.

Figure 18

*Business needs-driven technology and automation choice: warehousing example*

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Reconfigure the supply chain organization to have business management capability

The shift in supply chain expectations requires a fundamental rethink of the required capabilities. Today’s organizations need to have a suite of business management skills beyond the core supply chain functional skills (see figure 19 on page 20).

With businesses becoming more global and complex, the ability to translate macroeconomic factors into implications for the supply chain is crucial. Having an all-encompassing business view helps when designing a supply chain that is proactive to changing business needs. Supply chain professionals need to be good at networking and consultative selling to work with participants across the value chain. Because the supply chain is on the CEO agenda, supply chain professionals need to be able to articulate the trade-offs and present the business case for their recommended solutions. In short, having core supply chain skills alone is no longer sufficient. Business management skills are equally important.
As a result, leaders are taking steps across all stages of talent management (see figure 20). Supply chain leaders invest in capacity ahead of time and actively participate in managing their talent. They anticipate the need for different skill sets and focus on developing talent through cross-functional exposure and customized training programs, building the competence of supply chain professionals and elevating the organization’s capability in the process.
Building Competitive Advantage Through the Supply Chain

Organizations are overcoming India's challenges and building competitive advantage through their supply chains. While there are many supply chain practices, leading supply chain professionals have these seven best practices in their transformation repertoire. All are working successfully across industries and giving leaders a competitive edge.

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About A.T. Kearney

A.T. Kearney is a global team of forward-thinking, collaborative partners that delivers immediate, meaningful results and long-term transformative advantage to clients. Since 1926, we have been trusted advisors on CEO-agenda issues to the world’s leading organizations across all major industries and sectors. A.T. Kearney’s offices are located in major business centers in 39 countries.

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Founded in 1963, the Council of Supply Chain Management Professionals (CSCMP) has been the leading worldwide professional association dedicated to education, research, and the advancement of the supply chain management profession. With more than 9,000 members globally, representing business, government, and academia from 62 countries, CSCMP members are the leading practitioners and authorities in the fields of logistics and supply chain management.

The continuing education of its members and sharing of best practices is the cornerstone of CSCMP. The Council also provides online education opportunities to supply chain professionals. Its online university offers members and potential members easy access to the latest in logistics and supply chain management science. CSCMP’s SCPro is a rigorous, three-level certification program that offers supply chain professionals a concrete way to fully demonstrate a broad range of skills and gives hiring managers an independent barometer of a candidate’s commitment to, and success within, the supply chain management profession.