Boosting profitability in the Indian chemical industry through functional excellence

Chemicals practice March 2015

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The Indian chemical industry outperformed the Indian market in the past 5 years on shareholder returns. It fetched shareholders an annual return of 44 percent, almost double of what the overall Indian market has achieved. However this over-performance is to be interpreted as a call to action for Indian chemical companies: As their average profitability fell sharply by 5 points over the period, their market valuations rose due to investors’ expectations – of both improvements in profitability and acceleration of growth.

The international business environment further challenges Indian chemical companies to become more competitive. Not only is China posing growing competition, but chemical multinationals are also turning to rapid asset redeployment in emerging markets. These trends raise the following question for leaders of Indian chemical companies: “By how much could margins be increased through optimisation of all costs, operations and commercial activities?”

Functional excellence offers a path to building sustainable competitive advantages over a relatively short span of time – typically between one and two years. Experience suggests that most international majors and select Indian chemical players who developed advanced capabilities in at least two or three functional areas with a relentless focus on margins typically pushed up their EBITDA by 4 to 7 points.

**Manufacturing** presents the greatest opportunity despite being usually the most advanced functional area within Indian companies, with potential gains of 60 to 80 percent in equipment reliability, 20 to 30 percent in throughput, 2 to 4 percent in yield, and 8 to 10 percent in energy consumption. Indian chemical companies can capture these gains by improving their operating practices, including by shifting from reactive to reliability-oriented maintenance. They should also embed the ability to improve yield, throughput and consumption across the organization through daily cascaded performance reviews and a continuous improvement culture. The notion of a performance dialogue can be very powerful in changing culture and mindsets on the shop-floor.

**In procurement**, the key opportunity lies in shifting from tactical to strategic sourcing, for example using total cost of ownership-based sourcing. The shift could not only yield 4 to 6 percent sustainable gains in procurement costs but could also enable adequate risk reductions through hedging against commodity fluctuations and diversification of the supplier base. In addition organizationally splitting responsibilities for tactical and strategic sourcing allow a sustainable shift towards strategic sourcing.

**In marketing and sales**, Indian companies could improve return on sales by 2 to 4 percent by reducing price leakages through transaction-level pricing, and by developing granular opportunity-maps and differentiated value propositions in international markets.
While a functional excellence journey typically takes 1 to 2 years to complete, it is possible to realize many of these gains in less than a year and a half, with limited investments given the focus on capabilities and consistency. However this scale and speed of impact requires four enablers: an ambitious and quantified aspiration from the CEO; a dedicated team led by an influential senior leader; a “transformation” process whereby individual projects with concrete targets are conducted in parallel across manufacturing, procurement and marketing and sales; and a “look forward” culture focused on improvements role-modelled by senior leadership.

This report looks at the Indian chemical industry’s adoption of global best practices and estimates the potential value at stake in building functional excellence. It builds on McKinsey & Company’s experience in this area in India and globally and on an assessment conducted by McKinsey & Company with select mid-sized Indian chemical companies.
Introduction

The Indian chemical industry has delivered a total return to its shareholders of 441 percent annually over the past 5 years, almost double of what Indian markets overall have achieved. Growth, although steady at 15 percent annually, cannot explain this over-performance, as Indian markets overall grew at the same pace over the period. The higher profitability of the Indian chemical industry compared to other industries does account for the over-performance, although not completely given the sharp decrease of 5 points which the industry’s return on invested capital has undergone over the period (Exhibit 1). The rest of the over-performance can be explained by investors’ expectations – of both improvements in profitability and acceleration of growth.

Declining profitability and rising investor expectations, coupled with rising competition from China and rapid asset redeployment from chemical multinationals raise the following question for leaders of Indian chemical companies: “How much could we increase our margins if we optimized all of our costs and operations?”

Functional excellence offers a path to building sustainable competitive advantages over a relatively short span of time – immediate gains can be visible within a year with a full transformation typically taking between 2 and 3 years. Experience suggests that most international majors and select Indian chemical players which developed advanced capabilities in at least two to three functional areas with a relentless focus on margins, achieved material gains in EBITDA levels.

This report looks at the Indian chemical industry’s adoption of global best practices and estimates the potential value at stake in building functional excellence. It builds on McKinsey’s experience in this area in India and globally and on an assessment conducted by McKinsey with select mid-sized Indian chemical companies.

The overarching observation through this assessment is that the Indian chemical industry is at a transition point between a phase of extensive scale building, and becoming a global leader. As such, there are a set of clear imperatives for the chemical industry to make that shift happen, bringing a potential EBITDA impact ranging from an additional 4 to 7 percentage point through changes required in three areas: manufacturing excellence, procurement excellence, and marketing and sales excellence (Exhibit 2).
Exhibit 1: Profitability trends for Indian and global chemical companies

<table>
<thead>
<tr>
<th>Year</th>
<th>India</th>
<th>Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>&lt;10</td>
<td>+2</td>
</tr>
<tr>
<td>2010</td>
<td>-8</td>
<td>+4</td>
</tr>
<tr>
<td>2011</td>
<td>0</td>
<td>+2</td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: Datasream

Exhibit 2: Potential impact of functional excellence

<table>
<thead>
<tr>
<th>Levers</th>
<th>Business impact</th>
</tr>
</thead>
</table>
| **Manufacturing excellence** | • Reliability-oriented maintenance
| | • Continuous improvement culture
| | • Shifting to reliability oriented maintenance
| | • Cascaded performance reviews and updating KPIs
| | • 60-80% reduction in unscheduled shutdowns
| | • 20-30% throughput improvement
| | • 8-10% reduction in energy consumption
| | • 2-4% reduction in energy consumption
| | • 60-80% reduction in unscheduled shutdowns
| | • 20-30% throughput improvement
| | • 8-10% reduction in energy consumption
| | • 2-4% reduction in energy consumption

| Procurement excellence | • Hedging against volatility in input material prices
| | • Securing supplier base in an uncertain environment
| | • 4-6% savings on procurement costs
| | • 4-6% savings on procurement costs
| | • 4-6% savings on procurement costs
| | • 4-6% savings on procurement costs
| | • 4-6% savings on procurement costs
| | • 4-6% savings on procurement costs
| | • 4-6% savings on procurement costs
| | • 4-6% savings on procurement costs
| | • 4-6% savings on procurement costs

| Commercial excellence | • Accelerating growth in international territories
| | • Capturing the maximum value in each transaction
| | • Building organization processes and capabilities
| | • 2-4% return on sales
| | • 2-4% return on sales
| | • 2-4% return on sales
| | • 2-4% return on sales
| | • 2-4% return on sales
| | • 2-4% return on sales
| | • 2-4% return on sales
| | • 2-4% return on sales

| Total potential EBITDA impact | +4-7 percentage points |

SOURCE: McKinsey analysis
Manufacturing excellence: A significant opportunity in most companies

Overview
In their phase of building scale, Indian chemical companies have been successful in achieving well-performing manufacturing assets with the essential practices in place, primarily centered on maximization of capacity utilization. However, our experience has shown that international chemical benchmark companies have leveraged more advanced manufacturing practices to become even more profitable. Indian companies could emulate these practices by focusing on three dimensions: (i) operating practices, (ii) cascaded performance monitoring and reviews and, (iii) continuous improvement culture (Exhibit 3).

Exhibit 3: Summary of manufacturing practices

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Scores</th>
<th>Average of assessed companies</th>
<th>International average</th>
<th>International top quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Focus on safety and quality</td>
<td></td>
<td>Adequate focus on safety and adherence to local environmental regulations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Execution discipline</td>
<td></td>
<td>Emphasis on team work and execution driven mindset</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Technical capabilities</td>
<td></td>
<td>Sufficient clarity on the requirements of technical manpower and talent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Plant configuration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Organization and role design</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Continuous improvement</td>
<td></td>
<td>Improvement opportunities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Operating practices</td>
<td></td>
<td>Creating a continuous improvement culture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Performance management</td>
<td></td>
<td>Institutionizing cascaded performance reviews with updated KPIs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Strengths to build on
In this process of bridging the gaps to international benchmarks, Indian chemical companies must not forget the hard-won strengths that have been built during the phase of scale up.

Adequate focus on safety. This is evident in these companies not only at the shop floor level but at an overall organizational level. All visitors to the plant are briefed on safety protocol and provided with the necessary safety equipment. There are frequent safety drills and programs to ensure adequate awareness is built into the system. Moving forward, mechanisms of preventive safety checks and rapid accident response capabilities must be developed.

Team mindset for execution. This is effective in organizations where there is a mechanism of improvement projects present in which leaders spend a significant amount of time on the shop floor, working closely in a team environment and setting an inspiration for joint execution effort on the shop floor. This was observed in most of the assessments, with the original installed capacities having doubled in 3 to 5 years through an execution mindset.
without any substantial capex additions. Moving forward, this strength has a potential to keep Indian chemical companies on the path of continuous improvement and bridge the gap between the best practices and current improvement opportunities as stated above.

**Clarity on the requirements of manpower and talent.** Manufacturing functions within Indian chemical companies recruit skilled manpower for critical roles such as central control room operations, and there is clear plan on the deployment of skilled manpower to run critical plant operations. Moving forward, this strength will act as a foundation for these companies to take on the operational excellence journey particularly in the capability building process by introducing on-job rotation for specialized jobs. This can provide field staff with opportunities in their career growth.

These strengths should also be revisited periodically, and codified as a system of practices – to avoid the danger of losing them.

**Improvement opportunities**

It is important that in a manufacturing excellence journey, any company should work across the three dimensions in parallel – operating systems, management infrastructure, and mindsets and capabilities. Some companies make the mistake of over-emphasizing on the operating system while ignoring the others, and that typically can become a challenge in delivering sustainable results. The key opportunities for improvement observed through the assessment reflect these three dimensions (Exhibit 4).

**Exhibit 4: Three critical dimensions of a manufacturing excellence journey**

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Management Infrastructure</th>
<th>Mindsets &amp; capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>The way assets and resources are configured and optimized to create value and minimize losses</td>
<td>The formal structures, processes and systems through which resources are managed in support of the operating system</td>
<td>The way people think, feel and conduct themselves in the workplace, individually and collectively</td>
</tr>
<tr>
<td>Drivers</td>
<td>Drivers</td>
<td>Drivers</td>
</tr>
<tr>
<td>▪ Plant configuration</td>
<td>▪ Performance management</td>
<td>▪ Continuous improvement</td>
</tr>
<tr>
<td>▪ Operating practices</td>
<td>▪ Focus on safety and quality</td>
<td>▪ Technical capabilities</td>
</tr>
<tr>
<td>▪ Execution discipline</td>
<td>▪ Organization and role design</td>
<td>SOURCE: McKinsey &amp; Company</td>
</tr>
</tbody>
</table>

1. **Continuous improvement culture.**

In a case of a US$6 billion-division of a large agrichemicals corporation, the energy cost was one of the top five costs, and had been increasing at ~7 percent annually. Building on the principles of continuous improvement, a sustainable energy program was developed and the company created a tracking mechanism in the form of a dashboard to monitor the loss on a daily basis. By systematically eliminating losses, it achieved ~10 percent savings on its bottom-line. There are three critical dimensions of a continuous improvement culture:
i) role modeling of relentless loss elimination by the senior management, ii) variability measurement, and iii) a culture of problem-solving where teams are able to reach actionable solutions in a matter of days – not weeks.

In the context of the Indian chemical industry, while consumption tracking is being done on almost daily basis, significant upgrades are required in current measurement systems to make it more reliable and robust. There is a need to look at variability in both input and output on a daily/batch-to-batch basis and to reduce variability using statistical tools. There is also a need to create processes to control variability.

2. Cascaded performance reviews and updated KPIs.
In the Indian context, most of the chemical companies have established comprehensive data capturing mechanisms, but in most of the situations there is a need for specific KPIs with corresponding targets defined. As an example, a specialty chemicals company implemented a cascaded performance monitoring and review system through performance dialogues across three levels: i) shift-level performance dialogues between operators and shift in-charge at the end of shifts, ii) daily dialogues between shift in-charges and the plant head, and iii) a weekly dialogue between the plant heads and the unit head. Each dialogue was focused on actual performance of five key performance indicators against targets already defined. In a short span of just three months the company was able to reduce cycle times by 20 to 30 percent, and improve yield by 0.5-1 percent.

3. Operating practices
Improving operating systems can be done in four major ways: Designing a reliability-oriented maintenance in order to reduce unscheduled shutdowns; improving the plant’s throughput within the existing equipment and infrastructure boundaries; improving energy efficiency to reduce power and fuel consumption; and improving yield to reduce input consumption at a constant production level (Exhibit 5).

Exhibit 5: Sample detailed initiatives for manufacturing excellence – Focus on operating system

<table>
<thead>
<tr>
<th>Key levers to achieve impact</th>
<th>Business impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reliability-oriented maintenance</strong></td>
<td></td>
</tr>
<tr>
<td>• Reducing repetitive breakdowns through a structured root cause analysis</td>
<td>60-80% reduction in unscheduled shutdowns</td>
</tr>
<tr>
<td>• Identifying break-down risks early on through risk parameter measurement</td>
<td></td>
</tr>
<tr>
<td><strong>Throughput</strong></td>
<td></td>
</tr>
<tr>
<td>• Controlling variability in feed rates (for continuous/batch processes) and cycle times</td>
<td>20-30% throughput</td>
</tr>
<tr>
<td>(batch processing)</td>
<td>improvement</td>
</tr>
<tr>
<td>• Tracking of OEE(^1) losses to identify performance gaps followed by structured</td>
<td></td>
</tr>
<tr>
<td>debottlenecking</td>
<td></td>
</tr>
<tr>
<td>• Leveraging big data analysis to identify optimal operating parameters vs. following</td>
<td></td>
</tr>
<tr>
<td>established operating norms</td>
<td></td>
</tr>
<tr>
<td><strong>Energy efficiency</strong></td>
<td>8-10% reduction</td>
</tr>
<tr>
<td>• Tracking daily consumption at a stream level</td>
<td>in energy consumption</td>
</tr>
<tr>
<td>• Conducting energy audits and energy walks to identify improvement with energy efficient</td>
<td></td>
</tr>
<tr>
<td>lighting in plant and office Installing waste heat recovery systems</td>
<td></td>
</tr>
<tr>
<td>• Minimizing steam venting from steam traps</td>
<td></td>
</tr>
<tr>
<td><strong>Yield</strong></td>
<td>2-4% yield improvement</td>
</tr>
<tr>
<td>• Analyzing daily material balance analysis at a stream level</td>
<td></td>
</tr>
<tr>
<td>• Conducting waste walks to identify leakage points</td>
<td></td>
</tr>
<tr>
<td>• Reducing spillage and overfilling of bags in packaging area</td>
<td></td>
</tr>
<tr>
<td>• Using latest technologies to minimize measurement and inspection errors</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) Overall Equipment Effectiveness
SOURCE: McKinsey analysis
3(a) Reliability-centered maintenance. Compared to world-class standards, maintenance systems for a majority of the Indian chemical organizations are at a nascent stage. Achieving maturity on maintenance systems is extremely critical for these organizations as their assets grow older and the reliability of equipment goes down. The key for this is to shift from predominantly reactive maintenance practices to reliability-centered maintenance practices, leading to an estimated reduction of unscheduled downtime by 60 to 80 percent.

For example, a fertilizers manufacturer in the Middle East was struggling with a low plant uptime due to frequent breakdowns. The 7-year old plant was operating at about 55 percent overall equipment effectiveness, with breakdowns contributing to ~18 percent of total losses. The primary reason for this was identified as a combination of design limitations and poor maintenance practices. To facilitate an immediate turnaround, a two-pronged transformation approach was followed that focused on reducing repetitive breakdowns through a structured root cause analysis; and implementing a reliability-centered maintenance system. Within four months, the effort delivered a downtime reduction from 18 percent to 8 percent, resulting in an output improvement of 10 percent over baseline.

3(b) Throughput improvement is often achieved by controlling variability in cycle time/feed rates through real-time monitoring of input. This should result in tracking of overall equipment effectiveness losses on a daily basis to identify gaps between actual and target performance, followed by systemic debottlenecking of each of the losses – with an expected throughput improvement of 20-30 percent. In the context of Indian chemical players, there is a potential to leverage big data analysis to identify optimal operating parameters, as opposed to following the established operating norms.

3(c) Energy efficiency improvement starts by tracking daily consumption at a stream level to identify the sources of leakage, and establishing external energy audits and internal energy walks to identify improvement areas. The typical potential reduction in energy costs in Indian chemical companies is in the range of 8 to 10 percent. Some of the best in class actions include installing waste heat recovery systems, minimize steam venting from steam traps and using energy efficient lighting in plant and office areas.
3(d) Improvement in yield. Indian chemical companies should establish robust measurements systems (using mass flow meters / level transducers instead of level indicators) to monitor the input and output on a daily basis or at a batch level. Targets need to be defined for outputs at critical manufacturing stages and reviewed on a daily basis or at a batch level. Similarly material recoveries from the system need to be analysed to identify losses proactively. The typical impact in the industry is 2 to 4 percent improvement in yield. For the Indian chemical players, this also highlights an importance of reducing spillage in the drum filling areas or bagging areas. The cornerstone of the yield improvement approach is the “yield bridge” wherein the different types of losses are mapped out comprehensively (Exhibit 6).

Exhibit 6: Illustrative “yield bridge” analysis

![Illustrative “yield bridge” analysis graph](source: McKinsey & Company)
Boosting profitability in the Indian chemical industry through functional excellence
Procurement excellence: From operational to strategic sourcing

Overview
Promoters or CEOs of Indian chemical companies tend to get significantly involved in procurement activities, at least for the key raw materials. However, three key improvement opportunities would require a slight repositioning of their role towards procurement: i) performance management, ii) organization structure, and iii) strategic procurement (Exhibit 7). The key to procurement is measuring sustainable and structural savings and not just baseline savings. The potential sustainable impact through leveraging these practices is typically 4 to 6 percent of savings on total procurement costs.

Among these improvement areas, the shift towards strategic procurement is of primary importance, given fluctuating raw material prices and the sometimes narrow supplier bases. For example, a global chemical company facing significant volatility in raw material availability and prices turned to an alternative raw material, which created arbitrage opportunities for both of these materials depending on price curves. The move helped to save 25 percent on the price and improved manufacturing volumes by 10 percent through improved availability.

Exhibit 7: Summary of procurement practices

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Scores</th>
<th>Average of assessed companies</th>
<th>International average</th>
<th>International top quartile</th>
<th>Strengths to build upon</th>
<th>Improvement areas to prioritize</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge and information management</td>
<td>1</td>
<td></td>
<td></td>
<td>2</td>
<td>Realization of strategic value of procurement</td>
<td>Organization structure vision of capabilities are required &amp; build a sustainable career path</td>
</tr>
<tr>
<td>Cross functional collaboration</td>
<td></td>
<td></td>
<td>3</td>
<td>4</td>
<td>Granular market understanding</td>
<td>Focusing on strategic procurement by adopting</td>
</tr>
<tr>
<td>Category purchasing processes</td>
<td></td>
<td></td>
<td>4</td>
<td>5</td>
<td>Positive emphasis on the procurement function’s role in demand management</td>
<td>• Clean sheet costing</td>
</tr>
<tr>
<td>Mindsets and aspirations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Total cost of ownership</td>
</tr>
<tr>
<td>Talent management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Make vs. buy</td>
</tr>
<tr>
<td>Organizational structure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Alternate vendor development</td>
</tr>
<tr>
<td>Performance management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategic procurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Strengths
Most Indian chemical companies have a well-performing, operationally-focused procurement function which benefits from high top management involvement and personal market understanding.

They have a fair realization of strategic value of procurement, which translates into significant involvement of senior leadership in operationally focused procurement for key raw materials, as well as participation in dialogues with key suppliers.

There is a granular market understanding based on experiential knowledge from the procurement leadership. We observed that the maturity level of market knowledge is
significantly high, and is built and codified through the participation of a leadership that has been involved in procurement systematically over a period of time.

Overall, there is positive emphasis on the procurement function’s role in demand management. The procurement team typically participates in monthly demand planning meetings to create a plan of purchasing based on operational needs. This helps extensively manage working capital while ensuring no stock-outs.

These strengths will be the building blocks in developing ever greater procurement excellence. Most companies will also need to improve upon the practices outlined in order to shift towards strategic procurement and thereby build procurement excellence.

Improvement opportunities
Our experience suggests that Indian chemical companies could benefit from prioritising their efforts in three key areas: performance management, talent management, and strategic procurement.

1. Rigorous performance management and base-lining.
For Indian chemical companies to build excellence in procurement, it is important that each role within the procurement team has a clear set of associated KPIs that can also track real performance versus market movements. An American chemicals manufacturer found it difficult to track the savings performance of the procurement team due to large swings in the ocean freight market. The company adopted a new method to shift the focus of the performance review from blaming market fluctuations to “how to measure savings if the market fluctuates so much?” The team developed an index based on global charter rate and refined KPIs to reflect the savings from this (using this index as a measure of purchase performance). The senior management adopted a floating baseline to ensure a data-backed review resulting in an outcome-oriented performance discussion. Similarly an Indian company started measuring sustainable savings on the back of real reduction in costs based on clean-sheet costs versus last price.

2. Organization structure.
One of the challenges most companies face – not just in India but globally – is clearly demarcating roles between strategic and operational procurement. The ambiguity does not allow enough time to devote to strategic procurement, and operations also sometimes suffer. There are always a few key raw materials and then a long tail of products. Separating the sourcing of really small products also allows for focus on strategic procurement including vendor development. Without this intervention, procurement organizations typically struggle to deliver their true potential even though they are fully aware of all the opportunities and tools.

3. Strategic procurement
3(a) Clean-sheet costing (CSC). Companies should push for a view on the total cost of producing a particular end product per unit quantity, and accordingly negotiate the raw material prices with suppliers. The Indian mid-size chemicals manufacturer estimates the requirement for raw materials for each finished product based on the reactions involved and typical yield. This results in a systematic database of the raw materials, along with their historic and current prices, collated by tracking the standard indices for the various commodity raw materials (for example, the Brent index). Based on estimates for the supplier’s manufacturing costs, fixed costs and the margins, the CSC tool gives a build-up of the total cost of final product per unit quantity, which helps in negotiating right prices. In one instance, the tool
provided a clear picture on the total cost per unit quantity for more than 70 percent of the major finished products (along with the right price ranges to be negotiated with suppliers). For a particular end product this resulted in raw material prices falling by 20 percent.

3(b) **Total cost of ownership.** Procurement organizations naturally take a procurement price view vis-à-vis an end-to-end view to procurement including credit terms, impact on yields, quality parameters, etc. In order to clearly know the procurement cost, chemical companies must view costs in three categories (Exhibit 8): external costs (e.g., material costs, handling, warehousing), joint costs (e.g., costs of inventory, local service costs), and internal costs (e.g., waste, shrinkage, yield impact). A holistic view can often significantly impact the decision making. For example, in one context, the typical procurement quality parameters required 99.6 percent purity – a norm set by R&D and therefore not challenged. When cross-functional teams jointly addressed this, they found that slightly easing the quality parameter (to 99.4 percent) would impact the yield marginally but would significantly impact the costs (by around 10 percent). Although these are more challenging for an organization to identify and then implement, they have high impact when done.

3(c) **Make versus buy.** There is an opportunity for Indian chemical companies to establish a systematic process for deciding which raw materials should be procured rather than produced in-house. An American speciality chemicals company assessed its feed materials on the two dimensions of criticality and ease of procurement. It determined criticality based on the yield and reactions involved, and determined ease of procurement based on the total cost of procurement and total supplier base. For strategic materials with high criticality and lower ease of procurement, the company created a plan for in-house production and could thus save around 5 to 10 percent on total procurement costs for these materials.

3(d) **Alternate vendor development (AVD).** A majority of Indian chemical companies have a significant opportunity to create a clear strategy on developing alternate vendors to secure supplies. Typically when there is a huge gap to clean sheet costs or there is significant risk to supply, it is important to consider alternate vendor development as a strategy. In the case of an Indian chemicals manufacturer, the costs of manufacturing a product where 35-40 percent lower than the price charged and through systematic AVD they were able to develop 2 vendors that brought prices down by more than 20 percent.
Boosting profitability in the Indian chemical industry through functional excellence
Commercial excellence: Towards granularity of growth and transaction-level pricing

Overview
Most Indian chemical mid-sized companies are at an inflexion point between customer centricity and building a commercial strategic advantage which can yield a 2 to 4 percent gain on return on sales. Historically, successful chemical mid-sized companies have achieved substantial growth – and for some reached domestic leadership – through a very customer-centric approach of knowing their clients personally, understanding their needs and ensuring very high customer satisfaction. In most cases, this process has been substantially supported by the promoters’ and the top management’s direct involvement in day-to-day commercial operations, at least with the largest customers. Three improvement opportunities would require the CEO or promoter’s role in commercial activities to evolve in order to drive new practices: i) achieving strategic growth through granular opportunity mapping and differentiated value propositions, ii) developing transaction-level pricing capabilities, and iii) developing supporting organisational processes and capabilities (Exhibit 9).

Exhibit 9: Summary of commercial practices

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Scores</th>
<th>Average of assessed companies</th>
<th>International average</th>
<th>International top quartile</th>
<th>Strengths to build upon</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sales support</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>Cross functional support between Sales and services, IT is high and there is a lot of knowledge sharing and information exchange between the two</td>
</tr>
<tr>
<td>2. Maturity of market knowledge</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>High knowledge levels and understanding of primary markets e.g., domestic markets</td>
</tr>
<tr>
<td>3. External channel partner management</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>Good external channel partner management with time to time dialogue with channel partners</td>
</tr>
<tr>
<td>4. Tactical marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Innovation and product/ service management</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Strategic Marketing organization</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>Strategic growth in domestic and international markets – clear mapping of market segments based on profit margin and geography attractiveness</td>
</tr>
<tr>
<td>7. Price and contract management</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>Transaction value pricing – pricing of each transaction is done scientifically based on total cost to serve and desired profit margin</td>
</tr>
<tr>
<td>8. Capability of sales</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>Organisational process and capabilities – better forecasting and planning of customer demands, integrated review of growth vs. profitability</td>
</tr>
</tbody>
</table>

SOURCE: McKinsey analysis

Strengths
In this process of developing a commercial competitive advantage, Indian chemical companies have developed commercial strengths which they must utilize as they build commercial excellence:

Cross functional support between sales and marketing. This dimension could further evolve from a state where marketing effectively supports sales operations, to a state where marketing opens new avenues of growth through granular market insights.

Strong understanding of primary markets and customers. This could be augmented if knowledge was codified and shared in a more systematic manner.
External channel partner management practices, largely based on quality dialogues with channel partners and long term relationships, which should be expanded to international markets with the same quality of dialogues.

Improvement opportunities
The assessment suggested that the mid-sized Indian chemical companies have much to learn from international leaders, and many are probably at a point where they can initiate a journey to replicate some of their strengths. A number of international leading chemical companies have developed a commercial edge over their competitors through advanced marketing and sales capabilities. In turn, Indian chemical companies could improve their profitability substantially by implementing the following set of recommendations (Exhibit 10).

Exhibit 10: Six recommendations to build commercial excellence

| Strategic growth in international markets | Granular market intelligence | • Focusing primarily on international markets for growth  
|                                           | • Mapping geography vs. profitability to identify spot growth opportunities |
|                                           | Segment-differentiated value proposition | • Defining the value proposition of the product for each of customer segment  
|                                           | • Crafting a clear value proposition for commodity and specialty products based on customer service level, segments  
|                                           | • Communicating the value proposition to customers |
| Transaction value pricing                 | Target price setting methodology | • Setting up clear mechanism for capturing full value of the transaction and set pricing guidelines to drive transactional value pricing  
|                                           | • Focusing on value oriented KPIs to drive bottom-line growth for set of transactions for each sales representative |
|                                           | Cost transparency for each transaction | • Developing a transparent view on cost breakdown for each transaction  
|                                           |                                             | • Translating transaction costs into EBITDA to assess transactional profitability |
| Organizational process and capability     | Full ownership of sales portfolio | • Adopting entrepreneur mindset by each sales manager to drive transaction pricing decisions  
|                                           | • Taking full ownership of all transactions and its impact on bottom-line management |
|                                           | Integrated growth and margin performance dialogues | • Facilitating coaching and rigorous performance dialogues to reinforce value mindset as well as growth in each of the customer segment  
|                                           |                                             | • Checking for root causes of low performance to decide collective action plan |

SOURCE: McKinsey analysis

1. Strategic growth in international markets
1(a) Granular market intelligence. Indian chemical companies need to generate intelligence for every tonne sold in the global markets, with a view on profitability. An Indian specialty chemicals company compiled price and cost data for 30 countries at a customer segment level. As a result, the sales team was able to identify pockets of margin, to define its priorities and to develop a ready-to-implement international commercial action plan.

1(b) Segment-differentiated value propositions. Additionally granular market intelligence should enable distinct value propositions for each segment mapped in international markets. The rationale for this is that different customers might value different things and might be ready to pay for those specific features – some may value very predictable delivery times and visible logistics information, some may value higher grades and quality of products, others may value very high quality packaging for longer storage time. A leading global chemicals player in Europe developed a dual value proposition with product differentiation (e.g., best-in-class fibre fatigue and humidity) and service differentiation (e.g., 24x5 on-the-ground technical service), and disseminated them through targeted campaigns and road shows.
There are two aspects of accelerating international growth, through the examples of a European company’s action plan to grow in Asia-Pacific (Exhibit 11).

**Exhibit 11: Sample international growth action plan (European chemical company)**

<table>
<thead>
<tr>
<th>What does success mean?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• ~90% of market mapped in the database, including long list of potential customers, to be validated</td>
</tr>
<tr>
<td>• For each customer (ideally by product), 80% right estimate of the following</td>
</tr>
<tr>
<td>— Size of wallet and company wallet share</td>
</tr>
<tr>
<td>— Granular competitive intelligence including price levels and wallet shares</td>
</tr>
</tbody>
</table>

2. Transaction value pricing

2(a) **Target price setting methodology** is the first step towards maximising margin levels transaction by transaction and will serve as guardrails for sales representatives to set prices for individual transactions. As an example, a global specialty chemical company positions its customers in a matrix depending on sales volumes and pocket margin and defines price and service levels according to a customer’s positioning in the matrix. This enabled a more conscious choice to offer differentiated service levels to high volume customers, and to avoid discounts for high margin customers, with an average of 4-point EBITDA impact on bottom-line. In another example, a specialty company producing surfactants, simulated the impact of different price-setting actions for ethylene oxide – its major product vertical – in different feedstock cost scenarios, thus creating pre-defined price revision thresholds aimed at safeguarding margins through commodity pricing cycles.

2(b) **Cost transparency** must accompany any price-setting methodology in order to generate control on margins. As an example, a specialty chemical company developed visibility on costs such as last-minute customer requests or extensive use of its laboratory services and technical support.

3. Organizational process and capabilities

3(a) **Full ownership of sales portfolio.** A mindset of full portfolio ownership must prevail in the sales team to enable the enhanced practices described earlier. In the case of a mid-sized Indian chemicals company, the company designed a scorecard to reflect on the number of transactions driven end-to-end by each manager, including pricing decisions, full view of costs involved. This resulted in healthy competition and within 9 to 10 months over 50 percent of sales managers had the full pricing ownership of their sales portfolio.

3(b) **Integrated growth and profitability dialogues** should replace current performance measurements based primarily on sales volumes. In a multi-million dollar agrochemical company, this practice was the root cause of poor performance dialogues without a balanced focus on growth and profitability. To improve the quality of the dialogues, the
management put in place key performance indicators for all their commercial activities, balancing growth and profitability of the sales portfolio. This helped the sales team to have discussions which were more focused on issue resolution (Exhibit 12). It reflects the trends of margins earned per quantity of sales and also gives a view on its status against the previous year’s performance.

Exhibit 12: Sample growth and profitability review dashboard
Although the general belief is that such deep improvements come at a significant capital expenditure investment, experience indicates that 80 to 90 percent of the improvement potential typically involves little or no capital expenditure and can be captured within a year and a half. However, capturing 4 to 7 EBITDA points in such a short timeframe requires powerful enablers.

First, the CEO has to state an ambitious aspiration with a clear quantified target, explicitly communicating this to all levels of the organization.

Second, the functional excellence journey will require an equally ambitious resourcing, with a dedicated and influential senior leader and a core team of high-performing middle managers.

Third, Indian chemical companies have to set up a “transformation” process whereby individual projects with concrete targets will be conducted in waves, enabling the progressive capability building of change leaders. These waves must address manufacturing, procurement, and marketing and sales in parallel. This will prevent situations where gains in procurement costs are passed on to the customers instead of getting locked in margins, or where potential gains in manufacturing capacity do not find corresponding market opportunities.

Lastly, success will be guaranteed only if the cultural shift affects the organization at a deep level through changed mindsets. Functional excellence requires a “look forward” culture focused on continuous improvement. Experience shows the greatest results in companies where the senior leadership redirects its role and focus from intense involvement in operational activities, to capability and leadership building for their teams – with a high bar placed on capabilities.

We believe that this is the right time for Indian chemical companies to get started in building functional excellence. If they apply the right set of enablers, this can lead to profitability gains in the range of 4 to 7 EBITDA points.
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