Breakthrough Value Creation For Indian Manufacturing

A report by The Boston Consulting Group (BCG) and The Confederation of Indian Industry (CII)
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Note to the Reader

The last five years have seen unprecedented growth in the Indian economy and value creation in the Indian stock markets. Over the five year period from 2002 to 2007, a sample of top 200 Indian firms delivered total shareholder return of 38% which is almost 20 times that of a sample of 1,056 global companies. While the knowledge economy or the services industry is widely credited for the increased pace of growth of the Indian economy, not many realize that the industries that accounted for maximum value creation are from the manufacturing sector. Even fewer understand the drivers that resulted in the remarkable value creation delivered by the manufacturing sector.

The objective of this study is to identify key value creation drivers in the Indian manufacturing sector and understand how they could be effectively applied by the industry at large.

We believe this study has yielded important insights into key tools that need to be leveraged by the Indian manufacturing sector to drive breakthrough value creation. At a broader level, we hope this study sparks a rich discussion around means to make the Indian manufacturing sector even more competitive and hasten India’s progress towards emerging as one of the largest manufacturing economies in the world. We hope you find the report useful and would be pleased to have your comments.

Acknowledgements

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Indian Manufacturing: Setting The Context

Evolution of Indian Manufacturing

The 2005 CII–BCG Report on Manufacturing described how India’s manufacturing sector has evolved through several phases—from initial industrialization and the license raj to liberalization and the current phase of global competitiveness—each of which has contributed to the shape of manufacturing sector in India.

As seen in exhibit 1.1, the first phase, from 1947–1965, focused on government–led investments in manufacturing, with the aim of creating a strong industrial foundation. Several large public sector units in steel, chemicals and power were set up. Many of these companies exist even today and are amongst the largest companies in their sectors.

The second phase, from 1965–1980, was marked by the continued high levels of government involvement in industry, the introduction of strong licensing laws and a sustained focus on import substitution. This led to further growth in public sector units and formation of several low–scale private sector manufacturing entities. It also led to the broadening/diversification of the manufacturing base in India.

In the third phase, from 1980–1990, India partially opened its economy to external trade and de–licensed some key sectors for private participation, leading to strong growth in a few sectors. A key event was the formation of the Maruti Suzuki joint venture between the Government of India and Suzuki of Japan, reflecting a change in the attitude of Indian government and business towards MNCs.

In phase four, in the early nineties, Indian industry was further liberalised. The scope of licensing was significantly reduced. Custom duties were slashed. FDI in various sectors was allowed. The spectre of global competition, especially from Chinese and South East Asian players in the late nineties seemed very real, leading to intense introspection and uncertainty among the Indian manufacturers. This phase forced Indian manufacturers to focus on improving productivity, scale and efficiency.
The challenges faced by manufacturing companies in India during these phases also helped create India unique capabilities. Companies that had to be self-reliant on equipment and technology have also developed deep knowledge of manufacturing processes. This 'forced' domain knowledge is showing up as an advantage in the ‘upstream’ steps of the manufacturing value chain—right from design and development of products to design of processes. Companies that had to diversify and/or vertically integrate due to the License Raj have helped create the diversity and breadth in India’s manufacturing. Companies that were forced to invest in operational and productivity improvements have achieved cost competitiveness with key global players and, in some areas, are also the cost leaders.

Today, Indian manufacturing is in phase five, characterised by confidence and global aspirations. Companies are beginning to reap the rewards of the various phases of development and learning. Many have become quite competitive and are looking to take on global players in their markets. Many are also venturing abroad with global acquisitions. There is emergence of a new manufacturing identity—which is not just shop floors but also involves design and development built on foundation of innovation and talent in India. Indian manufacturing is showing the promise of emerging as a potential hub for the world.

### Importance of manufacturing for India

While the service sector is widely credited with the growth of Indian economy, manufacturing is also playing a key role in the 9% GDP growth. In the last three years, manufacturing in India has taken off. While it grew at 6% during the period 2000–2004, this pace accelerated to 10% during the period 2004–2007 (exhibit 1.2). In this time period, it has grown faster than the GDP and has marginally increased its contribution to Indian GDP as shown in this exhibit.

It also plays an important role in attracting FDI and generating exports. As shown in exhibit 1.3, in

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**Exhibit 1.1: Several phases of manufacturing in India**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Highlights</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-1965</td>
<td>Government investments contributed 53% of total Gross Capital; Formation and 92% of all investments in greenfield projects; Growth led by manufacturing and infrastructure sectors; electricity and water grew at 12.2%</td>
</tr>
<tr>
<td>1965-1980</td>
<td>Oil shock (1970s) and de-valuation of rupee; Licensing restrictions and continued public sector investments; Import substitution policy</td>
</tr>
<tr>
<td>1980-1990</td>
<td>De-licensing in some key sectors; allowed growth of private companies; Opening of capital goods imports</td>
</tr>
<tr>
<td>1990-2000</td>
<td>Liberalisation; Broad reforms, reduction of licensing; Higher competition, access to technology and imported inputs; Higher share of private sector in fixed investment; Increased threat perception from China</td>
</tr>
<tr>
<td>2000 onwards</td>
<td>Global competition; Removal of most import controls; Resurgence of key industries; Indian companies acquiring companies abroad, gaining global identity; Emergence of design &amp; development skills; Outsourcing boom in manufacturing; M&amp;M, Bharat Forge, TATA acquire foreign cos.</td>
</tr>
</tbody>
</table>

Source: RBL, Literature review, BCG Analysis
Exhibit 1.2: Manufacturing in India has taken off

Manufacturing in India is growing fast...

...resulting in increasing share of GDP

Source: MOSPI, CMIE, RBI, BCG Analysis

Exhibit 1.3: Manufacturing contributing significantly to FDI and exports

FDI into India (2006-07)

Export composition (2006-07)

1. Services include Financial services and Telecom, Others include Mining and fuels
Source: CSO, FIPB, CMIE, RBI, BCG analysis
2006–2007, it attracted almost half of the FDI and contributed 40% to the total exports.

Global significance of Indian manufacturing

Exhibit 1.4 compares the size of Indian manufacturing with other countries. While Indian manufacturing size still remains small in comparison to many other economies, it is amongst the fastest growing. In 2005, it was the 14th largest manufacturing economy worldwide and smallest among the BRIC nations. Future projections of the manufacturing GDP of various countries (based on a simplistic assumption that share of manufacturing in the GDP remains same as today) suggests that by 2025, India could become the 7th largest (leaving BRIC nations except China behind) and amongst the top 3 manufacturing economies by 2035.

Based on the aforementioned assumption, as seen in the last column of exhibit 3, manufacturing GDP of China is still significantly larger than that of India, even though India is the third largest manufacturing economy. However, for China, as the economy grows over the next 2–3 decades, it is likely that share of manufacturing in its overall GDP will come down—as has been the experience with other developed economies. Moreover, India’s share of global manufacturing output is likely to rise over the next couple of decades given the specific advantages that it enjoys (lower labour cost, large pool of skilled manpower, higher skilled workforce and high capital productivity).

Hence, by 2035, the difference between India and China in terms of size of manufacturing GDP may be smaller than that shown in exhibit 1.4. Clearly, India is likely to occupy an even more dominant position in the world manufacturing economy.

In summary, we find that Indian manufacturing is gaining importance in its contribution both to the Indian and global economy. It has emerged strong after its journey through the various phases to grow faster than Indian GDP and manufacturing growth of most other countries in the last few years.
Over the last five years, there has been remarkable value creation in the Indian stock markets. The benchmark Indian stock market index ‘Nifty’ has more than tripled in this period delivering a compounded average growth rate of 28% per annum over this period. As shown in exhibit 2.1, Indian stock market index has outperformed many other global indices over this five year period.

In order to identify the top value creating sectors in the Indian market, we de–averaged the performance of the overall market by sector to compute the Total Shareholder Return (TSR) delivered by each sector. Total Shareholder Return includes both the return from share price change and dividend income. (For details on methodology for computing TSR please see the TSR methodology box.)

The result of the TSR analysis is shown in exhibit 2.2. Interestingly, the top value creating segments are not the oft talked about new knowledge economy or service sectors. In fact the top three value creating segments—engineering and construction, industrial manufacturing and materials & com-

**TSR Methodology**

Total Shareholder Return (TSR) is the most comprehensive and most widely accepted measure of value creation. TSR measures the change in a company’s stock price and dividend yield over a period of time.

For the purpose of this exercise, we conducted the TSR analysis for a sample of Indian companies for the period April 2002 to March 2007 and used published financials of the companies for the same.

In order to compute the TSR, as a first step, we selected the top 300 companies on NSE by market capitalisation as on 31 March 2007. These companies accounted for ~93% of the total market capitalisation of companies listed on the NSE.

Next, we excluded from the above list the companies listed after 31 March 2002. The residual set of companies accounted for ~70% of market cap of companies listed on NSE.
modities—are from the manufacturing sector.

A similar analysis for the preceding five year period (1997–2002) throws up an equally interesting, but sharply contrasting output. Exhibit 2.3 shows that most segments in the manufacturing sector not only lagged in terms of value creation, but many were also value destroyers.

Clearly, there has been a dramatic improvement in value creation by multiple industries in the manufacturing sector. As discussed in chapter 1, the period from 1997–2002 was at the cusp of ‘liberalization’ and ‘global competitiveness’ phases. This was also the time where global trade started to increase significantly—with the opening of economies in various parts of the world. The liberalization efforts initiated in early 1990s saw easing of import restrictions in many sectors, reduction in import duties and opening up of the several sectors for FDI. Thus, the period from mid to late 1990s was the time when several Indian manufacturing companies emerged out of a protective economic environment and were exposed to foreign competition for the first time.

While the manufacturing sector may have performed poorly around that time, it was quickly learning the new ‘rules of the game’ and preparing to take on global competition by improving cost structure (through improvements in productivity, scale and efficiency) and plugging crucial capability gaps (for example, design and product development). We believe that the value creation delivered by the manufacturing sector in the subsequent period (2002–2007) is a testimony to the fact that these efforts have paid off.

In a previous CII–BCG report *Advantage—The Indian Manufacturing Opportunity*, we had identified key factors that had driven the increased competitiveness of Indian manufacturing:

**Labour cost advantage**
- Labour wage levels in India are amongst the lowest in the world and this advantage is likely to continue, given the demographic advantages that India enjoys with a large and
2: Value creation by manufacturing industry

Exhibit 2.2: Top value creating industries from manufacturing sector

5 year TSR and 2007 market cap of top value creating industry segments

Source: Capitaline; BCG analysis

Exhibit 2.3: Relatively poor value creation by manufacturing sector

5 year TSR and 2002 market cap of top value creating industry segments

Source: Capitaline; BCG analysis
Availability of skilled manpower

- India not only has lower cost manpower, but also has access to a large pool of skilled resources. Every year, nearly 3 million graduates and 700,000 post graduate students pass out of Indian universities.

Better capital productivity

- India’s capital cost advantage stems from three reasons: Firstly, assets can often cost less to buy in India than developed countries. Secondly, most companies often use fewer and smaller assets than they would in developed countries. Lastly, companies also rethink the make versus buy decision in India—for example several MNCs like LG actively outsource key components to low cost suppliers in India.

We believe that these factors still hold true and continue to make India’s manufacturing cost competitive, thus enabling it to continue strong growth and value creation.

Future value creation potential of Indian manufacturing

In this section, we have attempted to estimate the future value creation potential of Indian manufacturing sector. If we loosely define the core manu-
facturing sector to constitute the following five segments—engineering & construction, industrial manufacturing, materials and commodities, chemicals and plastics, automotive and supply—the market capitalisation of core manufacturing sector was nearly US$ 272 bn as on 30 September 2007.

We believe that the market capitalisation of the Indian manufacturing sector could range upto US$ 520 bn by 2014–2015 if the ratio of market capitalization to manufacturing GDP remains at current levels. This also assumes growth of Indian manufacturing GDP as per estimates in exhibit 1.4. Thus, the Indian manufacturing sector, we believe, has the potential to create additional shareholder wealth upto the extent of US$ 250 bn by 2014–2015.

While it is heartening to note that the Indian manufacturing sector has created significant shareholder wealth in recent years, it is important to understand drivers for this value creation. In the next chapter, we highlight challenges faced and value creation levers employed by some of the best performing companies in this sector to draw out learnings for the sector at large.
In the preceding chapters, we noted the evolving role of Indian manufacturing in the Indian economy. We also observed that the manufacturing sector has displayed a healthy performance in the last five years and holds significant future growth potential. This has led to exceptional shareholder return in the recent past. As we saw in the previous chapter, various industries in the manufacturing sector—like engineering & construction, industrial manufacturing and material/commodities—have provided TSRs (Total Shareholder Returns) in excess of 50% per annum over 2002–2007.

As discussed earlier, while large shifts in environment and capabilities of Indian manufacturing industry have primarily contributed to this growth, we believe it is critical to understand the specific factors which have driven value creation in past. It is then that these learnings can be shared in the industry and can be replicated by those who aspire to grow fast.

### Methodology to understand value creation drivers

In order to identify and understand the specific value creation drivers of the sector, we adopted a three step methodology:

1. **Identification of top performers in the manufacturing sector**
   - One of the ways of understanding value creation drivers for the industry is to study specific actions taken by the top performers in the sector and extract common themes and learnings from the same.
   - We used published financials and capital market data to compute TSR (Total Shareholder Return) for more than 100 listed companies in this sector and identified the top performers in terms of TSR.

2. **Researching the top performers—developing hypotheses around value creation drivers**
3: Drivers of value creation

- Next, we scanned publicly available sources of information to conduct secondary research on the top performers.

- Through the secondary research we identified various measures and initiatives taken by the top performers over the last few years.

- More importantly, the research enabled us to develop hypotheses around drivers for value creation not just for the top performers but also for the manufacturing sector.

3. Testing the hypotheses in discussions with senior industry leaders and captains

- As a final step, we engaged in discussions with industry captains—some of whom were senior leaders of the identified top performers—to get their point of view on key value creation drivers and likely future challenges for the manufacturing sector.

- In the process, we tested and validated our hypotheses on value creation drivers.

Case vignettes

In this section, we showcase select companies that have delivered superior share holder returns over the last five years and highlight key levers used to drive value creation. In the last section, we will summarize emerging themes for the manufacturing sector from the study of top performers.

While each of the individual vignettes is an interesting theme in itself, our objective in laying these out is to highlight a few themes that we observed across the various sectors.

Case vignette I: Praj Industries

Praj industries supplies engineering technology and proprietary equipment to bio fuel refineries, breweries and distilleries. As seen in exhibit 3.1, the company has provided outstanding share holder returns on the back of solid financial perform-

Exhibit 3.1: Praj Industries—An overview

<table>
<thead>
<tr>
<th>Indexed share price</th>
<th>Financial highlights</th>
<th>Strategy &amp; initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sales ($ Mn)</td>
<td>PAT %</td>
</tr>
<tr>
<td>Praj Industries</td>
<td></td>
<td>16%</td>
</tr>
<tr>
<td>Sensex</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Capitaline; BCG analysis

- Internationalization – expansion into several new markets
- Innovative business model – able to customize the design at lower cost using Indian R&D professionals
- Acquisitions and alliances – to strengthen capabilities and product (services) portfolio
ance. The spectacular growth and value creation by Praj Industries in last five years is fundamentally driven by its growth in international markets, its ability to innovate on the business model and acquisitions/alliances to strengthen capabilities.

During the downturn in Indian manufacturing in 1996–1997, Praj Industries realized that it cannot depend on the domestic market alone for its growth and it embarked on a strategy to expand into international markets—thus derisking itself from the vagaries of the domestic market. Internationalization forced Praj to invest in capabilities—quality, lean operations—that would allow them to be competitive vis-à-vis global players.

Rather than compete merely on cost, Praj leveraged lower cost Indian talent to offer customization to customers—thereby positioning itself as an engineering company offering customized, innovative and integrated solutions. In fact, it is today one of the few companies that can offer customised end to end solutions for an ethanol distillery.

To compete successfully in the international markets, Praj has made acquisitions and entered into alliances with global partners to expand its offering and gain technology. For example, the company has created strategic alliances with multiple companies in US and EU to ensure a continuous flow of high end technology. In 2006, Praj also acquired 100% stake in US based C J Schneider Engineering (CJSE). Through this acquisition Praj would be able to offer a complementary and enhanced range of services with single point responsibility for the client.

**Case vignette II: Bharat Forge**

Bharat Forge is a producer of forged products for automotive and non–automotive industry. As seen in exhibit 3.2, it has grown its sales at a CAGR of ~60% between 2002 and 2007 and has delivered shareholder returns in excess of 70% (in terms of TSR) over the same period. Bharat Forge has achieved this feat through a strategy that comprises heavy investment in technology, innovative talent management and aggressive overseas acquisitions.

**Exhibit 3.2: Bharat Forge—An overview**

![Graph showing share price performance](image)

**Financial highlights**

- **Strategy & initiatives**
  - Internationalization – through aggressive acquisitions outside India
  - Innovative talent management
  - Investment in technology
With the opening of the economy, a large number of foreign OEMs flocked to India to begin operations in India. This offered a huge potential for domestic suppliers, but also brought competitors in the form of foreign suppliers setting up base in India. A sharp slowdown in the domestic auto industry forced Bharat Forge to look outside India. It started to export components to foreign OEMs and its exports grew more than seven times from US$ 16 mn in 1997, to US$ 177 mn by 2005.

Apart from exports, Bharat Forge’s internationalization plans included an aggressive acquisition strategy. It has made a string of acquisitions over the past few years. The 2003 acquisition of Carl Dan Peddinghaus gave Bharat Forge an infusion of new technology and access to customers such as BMW and Volkswagen. In 2004 it bought German firm CDP Aluminiumtechnik. In 2005, it acquired a Swedish company, Imatra Forging, the largest manufacturer of front axle in Europe; it also bought Federal Forge in the United States, which gave it access to the US passenger and light truck market. At present, Bharat Forge owns eight plants—two in India, three in Germany and one each in Sweden, Scotland and the US and a joint venture with FAW in China.

With business growing at a scorching pace, the challenge for Bharat Forge was to meet its growing manpower needs. Determined to not let manpower constraints affect its growth, Bharat Forge adopted innovative means to acquire required resources. The company invested in deskilling the process, upskilling available resources and even trained farm hands into becoming factory workers. They also reached out to lesser know engineering colleges in smaller towns and rural engineering colleges to expand the recruitment pool.

Another stand out feature about Bharat Forge has been its focus on technology. The company has invested heavily in technology even in its early years— in 1988, the company invested close to a billion rupees in a sophisticated German plant even though its revenue at that point were only a billion and a half rupees. Most of its acquisitions have provided it with a crucial technological advantage—for example, the acquisition of German firm CDP Aluminiumtechnik provided Bharat Forge an entry into aluminium forging.

Case vignette III: Crompton Greaves

Crompton Greaves is primarily engaged in design, manufacture and marketing high-technology electrical products and services related to power transmission, distribution and execution of turnkey projects. The last few years have been a transformational journey for Crompton Greaves—where it has emerged from being a low growth, loss making entity to a profitable, fast growing firm. The improved financial performance and resultant share holder value creation (refer exhibit 3.3) has been the result of comprehensive operational excellence, leveraging operational excellence for growth in revenues and international acquisitions to build global leadership.

With the opening of the economy in early 90s, Crompton Greaves, like many other Indian firms found itself under market share and profitability pressure. Realising the need for a globally competitive cost structure to compete even in India, Crompton Greaves embarked on a program of comprehensive cost reduction and operational excellence. This included initiatives like manpower reduction, operational efficiency improvement and working capital reduction.

With a competitive cost structure, the focus shifted to regaining domestic market share and exploring opportunities beyond the domestic market. In the last two years, Crompton Greaves has already acquired three companies with operations in Europe and US. Through these acquisitions, Crompton Greaves has not only begun the process of internationalizing its operations, but has also acquired key technologies and manufacturing capabilities that have added to the width and depth of its offering.

According to the top management, the key challenge to derive value out of the international acquisitions is integration of the companies. One of the ways in which the company has addressed integration challenges is by creating a young (“... nobody above 35”) and dynamic integration team and by empowering it to suggest and execute integration initiatives.

Along the way, Crompton Greaves has also developed some innovative means to address the
issue to talent scarcity—especially in the area of research and development. Instead of seeking to do all the research in–house, Crompton Greaves has moved to a model where it actively collaborates and networks with IITs and other research institutes. The company also hires retired European R&D professionals on a contract basis to help them with their R&D needs. These initiatives are helping Crompton Greaves transition from being a mere products company to a solutions provider.

Value creation drivers—emerging themes

Four key levers for value creation emerge from the case studies profiled in the previous section and from the discussions with industry leaders.

Internationalization
- None of the top performers in the sector today are satisfied with a mere domestic presence. Across industries (within the manufacturing sector), we have seen Indian companies going global. This enables the companies to get higher growth, de–risk themselves from presence in only a single geography (India), get global scale and acquire key capabilities. Clearly, internationalization is likely to be one of the key growth and value drivers for manufacturing sector firms even in the future.

Mergers and Acquisitions (M&A)
- Most top performing companies in the manufacturing sector in India have seen a spurt in M&A activity in the recent past and going forward, this trend is likely to continue. In addition to being one of the means of internationalizing, M&A enables building a global leadership position (for example, Bharat Forge for forgings) and acquiring key capabilities and technology (for example, Praj Industries, Crompton Greaves).

Talent Management
- Talent management is emerging as a key growth lever in the manufacturing sector.
today. With shift in preference towards the IT/ITES sector amongst engineers, it is even more important for manufacturing companies to devise effective talent management strategies; else scarcity of suitably trained/skilled manpower could derail growth prospects.

**Innovation**

- Innovation is a key ingredient for sustainable value creation. Need for innovation is not merely restricted to design and product development. Top performing firms have displayed the ability to innovate across several aspects—including, process, business model, talent management, etc.

The subsequent chapters seek to understand the challenges in executing the value creating levers identified above and measures to overcome the challenges.
Internationalization

Why globalize

In a previous global study, BCG assessed the activities and strategies of top 100 companies from the Rapidly Developing Economies (RDEs) that were going global and changing the world1. The study clearly indicated that a new set of emerging challengers are becoming important players in both developing and developed markets around the world. 21 of these top 100 companies were based in India and had made significant progress in their internationalization initiatives.

The research sought to understand reasons for the emergence of such global challengers from RDEs. Certainly, a variety of fast-moving globalization forces are spurring this trend. These include the dramatic surge in low-cost communication technologies, the internet, WTO, and economic reforms in key RDEs. In addition, the development of RDE markets has emerged as a strong enabler for the creation and growth of globally ambitious companies. And once they begin developing, many of these companies realise that they need to move beyond their home markets in order to grow further, create value, and sustain long-term competitiveness.

There are a set of factors that result in the RDE countries becoming platforms for the new global challengers; and an additional set of reasons for the companies’ own motives for globalization.

RDEs have rapidly growing markets, some of which are very large. Markets such as China, India, and Russia are sufficiently large and fast-growing to support large domestic companies. For example the Tata Group of companies, of which globalizers such as Tata Steel and Tata Tea are a part, has a large domestic revenue base. The rapid growth of RDE markets in general over the past decade means that domestic companies have an opportunity to become quite large on their home turf.

RDEs have low-cost resources. All RDEs have an abundance of low-cost basic labour and most offer...

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We would like to acknowledge the authors of this report for analysis and insight which have been used in this chapter.
other resources at low cost. Domestic companies in these markets are often better at exploiting these low-cost resources than foreign companies are.

Difficult operating environments in RDEs produce some highly capable companies. The challenges of operating in RDEs include selling profitably to low-income customers, dealing with immature logistics/distribution environments, navigating ambiguous legal environments, handling rapid external change and managing shortage of management talent. A company that has addressed such issues in its home market will have an advantage in seeking to grow in similar markets abroad.

RDEs are training grounds for competing with global incumbents. Increasingly, RDEs are key markets for multinational companies that are the incumbent leaders in developed-country markets. RDE-based companies have the opportunity to learn from these competitors in their midst. Companies such as Ranbaxy, Tata Motors and Videocon, for example, compete aggressively in their home markets against global incumbents such as Pfizer, Ford and Philips respectively.

Despite providing all these advantages, RDE markets in themselves do not allow companies to attain global scale, no matter how big or fast-growing they are. Ultimately, many RDE-based companies find that they must seek opportunities abroad for growth, value and competitiveness.

Our research indicates that for 88 of the 100 companies, the key motive for globalization is gaining access to new profit pools. For RDE-based companies, overseas markets may bring higher margins and revenues, higher volumes (which contribute to scale economies) and opportunities for growth-enhancing acquisitions.

For the remaining 12 of our 100 companies, such as India’s ONGC, globalization is driven by the need to secure access to global sources of raw materials. These companies, in general, are less likely to compete for overseas customers, but instead will challenge developed-market companies for access to supply and in M&A transactions.

Potential approaches to globalization

Each company in the RDE 100 list appears to be pursuing globalization in its own way, implementing a number of different strategies. Their operations extend to every corner of the world. But certain patterns seem to emerge from a closer examination of their actions to date.

Each company’s overall approach tends to be based on one (or more) of six primary globalization strategies (refer exhibit 4.1).

We should note that these six strategies, while in principle distinct, often overlap in practice. Moreover, they all have certain features in common. All of them build on positions of low cost—a key competitive advantage of RDEs. And virtually all the companies are highly adept at learning and adapting, enabling them to learn the lessons of other, more established companies, as well as benefit from their own bold, entrepreneurial experience and willingness to adapt to changing market conditions. We discuss the six globalization models below, with a closer look at some of the models followed by Indian companies.

Model 1: Taking RDE brands global

28 companies from the RDE 100 list are growing internationally by taking their established home-market product lines and brands to global markets. Companies in this category build international momentum by exploiting home-market products that have broad global appeal or are easy to customise to new markets. In the target markets in developed countries, these companies often position their products as good value-for-money alternatives to established brands. This positioning now constitutes a sizeable and rapidly growing segment. Representative of this strategy from India is Mahindra & Mahindra, a large utility vehicle and tractor manufacturer. With seven manufacturing plants across India and approximate sales of 122,000 utility vehicles (UVs) and 65,000 tractors, Mahindra & Mahindra enjoys a domestic market share of 49% in UVs and 27% in tractors. This company has started marketing its tractors in

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2. For the year 2004–2005
Exhibit 4.1: Six models of globalization followed by leading Indian firms

<table>
<thead>
<tr>
<th>Model Description</th>
<th>Leading Indian Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taking RDE brands global</td>
<td>Mahindra</td>
</tr>
<tr>
<td>- Exploit home-market products with global appeal</td>
<td></td>
</tr>
<tr>
<td>- Often position as value-for-money alternatives to</td>
<td></td>
</tr>
<tr>
<td>established brands</td>
<td></td>
</tr>
<tr>
<td>Turning RDE engineering into global innovation</td>
<td>Dr. Reddy’s, Wipro</td>
</tr>
<tr>
<td>- Leverage strengths in engineering and research to</td>
<td></td>
</tr>
<tr>
<td>market innovative technology-based solutions</td>
<td></td>
</tr>
<tr>
<td>Assuming global category leadership</td>
<td>Crompton Greaves</td>
</tr>
<tr>
<td>- Establish themselves as specialists and global leaders in a specific, relatively narrow product range</td>
<td></td>
</tr>
<tr>
<td>- Have well defined target markets and focused R&amp;D</td>
<td></td>
</tr>
<tr>
<td>Monetising RDE natural resources globally</td>
<td>Larsen &amp; Toubro</td>
</tr>
<tr>
<td>- Exploit advantage of domestic natural resources</td>
<td></td>
</tr>
<tr>
<td>- Use low cost resources advantage while not</td>
<td></td>
</tr>
<tr>
<td>compromising on quality</td>
<td></td>
</tr>
<tr>
<td>Rolling out new business models to multiple markets</td>
<td>TVS Motors, Dr. Reddy’s, Ranbaxy, and Cipla</td>
</tr>
<tr>
<td>- Extend business models generally pioneered in home markets</td>
<td></td>
</tr>
<tr>
<td>Acquiring natural resources</td>
<td></td>
</tr>
<tr>
<td>- Expand to acquire vital raw material from home markets</td>
<td></td>
</tr>
</tbody>
</table>

nine countries, key amongst which are China and the US, the largest tractor markets in the world. The Mahindra & Mahindra tractor brand is today recognised in international markets and the company has emerged amongst the top five tractor manufacturer in the world.

Model 2: Turning RDE engineering into global innovation

Of the RDE 100 companies, the international growth of 22 is based on marketing innovative technology–based solutions that leverage their strengths in engineering and research.

A representative example is Wipro. Wipro has expanded rapidly by providing software coding support, initially during the Y2K conversion. Since then, as offshore IT services/BPO flourished, the company has grown rapidly from $545 mn in 2000 to $ 2.3 bn in 2006. While Wipro achieved its initial breakthrough mainly on the basis of costs, driven by a mix of low labour costs and scale advantage, the company now creates much of its value by completely redesigning its clients’ business processes, a task requiring comprehensive process innovation capabilities.

Furthermore, Wipro is now taking innovation to the next level by creating extensive engineering capabilities, making R&D services its next battleground. The company claimed to be one of the world’s largest third–party provider of R&D services. Its Product Engineering Services (PES) group offers a complete range of R&D services—from product strategy to hardware design to quality consulting—to clients that sell electronics–based products.

Further examples of Indian companies that have expanded into global markets using this strategy include other leading IT services/BPO companies such as Tata Consultancy Services, Infosys, and Satyam and more recently, globalised pharmaceutical companies such as Dr. Reddy’s, Ranbaxy, and Cipla. In addition, Larsen & Toubro, the engineering and construction group, as well as other companies in the engineered products space such as Bharat Forge, Crompton Greaves and TVS Motors have also adopted this approach. A total of 11 of...
the Indian 21 firms appear to be pursuing this globalization strategy, increasing the value and profile of India’s strength in engineering and research.

Model 3: Assuming global category leadership

Of the RDE 100 companies, 12 are growing internationally by establishing themselves as specialists and global leaders in one specific, relatively narrow product category.

Companies in this category have in common a relatively well defined target market for their products; considerable depth in their chosen niches (which in some instances amounts to global category leadership); super-scale manufacturing; highly focused R&D; and global logistics, which they have down to a science. Their specialization allows them to be best in class, ahead of the competition in terms of cost, innovation, and understanding of next-generation customer needs. It also provides them with a scaleable platform from which to drive global industry consolidation, as well as to expand into new, related niches.

Certain Indian players, such as Bharat Forge and Crompton Greaves, while having principally followed the engineering-led innovation approach, have managed to establish strong positions in their categories. Bharat Forge is today the world’s second largest forging company. The 12 out of our RDE 100 companies pursuing global category leadership strategies fall mainly into the category of industrial products manufacturers.

Model 4: Monetising RDE natural resources globally

From the RDE 100 list, 13 companies are growing internationally by marketing products that exploit advantages based on domestic natural resources. A representative example from India is Hindalco, Asia’s largest producer of finished aluminium and alumina and India’s largest integrated copper producer. With India having the fifth largest reserves of bauxite in the world, reserves that could last for more than 20 years, Hindalco has an inherent competitive advantage. Similarly, in steelmaking, India has access to some of the richest supplies of iron ore in the world, which gives Tata Steel a competitive edge as it globalizes.

Companies in this category build their global expansion plans based on availability of natural resources at lower cost as compared to international benchmarks, without having to compromise quality. The natural resource advantage stems from rich supplies of energy, minerals, agricultural feedstock, or some combination of these. The 13 companies in our RDE 100 group that fall into this category are active in fossil fuels, mining and metals, and agricultural products.

Model 5: Rolling out new business models to multiple markets

From the RDE 100 list, 13 companies are building up regional or global portfolios in their respective areas by extending business models that have generally been pioneered in their home markets. A number of companies in this category are still in the early stages of globalization. Contenders represent a variety of industries, including cement, chemicals, food products and telecommunication services. These companies use a mix of models. They may have a comprehensive “formula” for acquisitions, markets and operational excellence. Or, they may exploit a regional advantage in the form of cultural similarities, shared language, or political ties that provide privileged access to markets.

This model has been more commonly witnessed in the telecom services vertical for Indian companies (for example, VSNL and Reliance—with their global acquisitions).

Model 6: Acquiring natural resources

In contrast to most emerging challengers, 12 of the RDE 100 companies are expanding overseas not to tap markets but to acquire vital raw materials for their home markets. A good example of this is ONGC, the US$ 13.8 bn oil and gas group. Domestically, ONGC owns and operates more than 11,000 kilometres of pipeline, two offshore terminals, 75 drilling rigs, 131 well platforms, and 28 process platforms. To gain access to global oil resources, ONGC has expanded into global markets, with commitment of billions of dollars for investment in overseas exploration projects.
Learnings from the challengers

Some of the companies discussed earlier in this chapter are well along the path to globalization. The essential capabilities are listed below, and companies that are still in the early stages of globalization will need to learn from these challengers and strengthen their positions in several areas to advance their international growth successfully.

**Clear, long-term globalization targets and roadmaps.** All companies need to clarify “why and how” they are going about globalization. Some of the companies may start globalising only opportunistically. But, to succeed in the longer term, they will need a clearer vision and purpose, set from the top, and detailed roadmaps for their globalization endeavours.

**Internationally capable management teams.** While some companies on our RDE 100 list already have global management teams, others have only just begun to address this issue. A globally capable management team will be essential to succeed abroad.

**Enhanced overseas selling, marketing, and supply-chain capabilities.** RDE-based companies need to move beyond being “secondary suppliers” for global customers and become primary suppliers. To move up to this level will require matching or beating incumbent suppliers in selling, marketing, and supply-chain capabilities. As RDE-based challengers seek sustainable global positions, they will need to move beyond cost-based differentiation. Otherwise, they will face incumbent competitors who will be cutting their own costs while building market barriers based on innovation and other advantages. Just as leading Japanese and Korean companies have become true innovators, so our current crop of RDE based challengers need to innovate their way to longterm success. The abundance of affordable engineering talent in markets such as India, China and Russia, gives companies based in these locations the potential to become innovation powerhouses.

**Expertise in partnering, M&A and leveraging suppliers.** In the race to compete, the most successful RDE challengers will include those that leverage others. Some will create this leverage through successful M&A activities. Others will do it by forming strategic partnerships or by leveraging the innovation of suppliers at home and abroad.

**An effective global organisation.** For long-term success, RDE–based challengers—like incumbent MNCs—must redesign their entire organisations to be truly global. There is an enormous effort involved in making the transition from being a mainly domestic player to becoming a truly global organization. The move requires difficult decisions regarding the composition of the management team, the centralization or decentralization of various key functions, and the extent to which organising is done geographically rather than by business line.

Internationalization is an important driver for creating share–holder wealth. Indian firms that have embarked on this journey have done remarkably well. It is imperative for many others to embark on this journey and emerge victorious. Those who can manage the challenges and harness the strengths will emerge as winners in the Indian and international landscape.
Mergers & Acquisitions

Why M&A?

Waves of mergers and acquisitions (M&A) have been a feature of the international corporate landscape for more than a century. At the beginning of the 20th century, for example, there was a drive for market share which led to the first wave of M&A. This was followed by a drive for vertical integration as companies strung together different elements of the value chain. Today’s wave that started in 2004, after the internet bubble at the turn of the century and subsequent downturn, is mainly about consolidation.

In India also, this phenomena has displayed a strong upward trend. The value of M&A deals in India has gone up from US$ 7.1 bn in 2000 to US$ 50.9 bn in the first half of 2007 itself. The number of deals similarly has gone up from around 200 to 540. It has also witnessed a strong upsurge in manufacturing sector M&As with the sector accounting for almost half of the overall deal value.

A recent global BCG study has identified a set of factors that have driven the increase in the M&A activity this time around. The study shows that many companies have successfully restructured their businesses over the past few years which is reflected in record profits as a proportion of GDP and are now ideally placed to embark on the acquisition trail. They have completed the tasks of cost reduction and business restructuring and have now amassed large amounts of cash that can fuel the acquisitions. The world’s credit markets have also given access to significant amount of external funds.

Additionally, in the Indian context, manufacturing firms are propelled by the desire to build minimum scale needed for a successful play in the global landscape. With a global playing field emerging in most industries, regional or local presence is no longer a choice. Unless one attains a certain minimum scale one is likely to be left behind or be consumed. Desire to build a leadership position

1. The Brave New World of M&A—BCG Report

We would like to acknowledge the authors of this report for analysis and insight which have been used in this chapter
and attain a certain minimum scale drove Tata Steel’s (India’s largest integrated steel producer) acquisition of Corus (Europe’s second largest steel maker).

M&A can destroy value

The other side of the M&A story is the aspect of value destruction for the acquiring firm. Numerous studies have shown that most mergers and acquisitions transfer value from the buyer to the seller. On an average M&A destroys value for the acquiring firm. This is borne out by multiple studies. As seen in exhibit 5.1, globally, between 1992 and 2006 for example, nearly 60% of the deals destroyed value for the acquirer’s shareholders, producing a net loss of 1.2% for all transactions.

This value destruction stems from the inability to manage the several risks involved. In the initial phase it is important to have a clear understanding of strategic priorities and hence the objective of the acquisition. Then again, even after well articulated objectives one may get distracted and not engage with the right set of firms. During the bid process firms often lose their way—they either overbid or underbid. For the deals that go through, often the envisaged synergies are not realized due to the absence of a well planned integration plan.

Managing M&A: The method in madness

Given the relatively low success rate, persistence with M&A may seem like madness. And in many cases it is. However, companies that regularly engage in M&A often generate superior long term shareholder returns compared with companies that rely only on organic growth. Previous studies by BCG have shown there is a clear and replicable method in the apparent madness of the most successful serial acquirers.

These companies treat the process in a systematic, “industrial” manner, pursuing a deal only when the expected returns are above the cost of the

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**Exhibit 5.1: M&A destroys value for the acquiring firm**

<table>
<thead>
<tr>
<th>% of deals</th>
<th>Reasons mentioned for value destruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>60%</td>
<td>Missing strategic fit</td>
</tr>
<tr>
<td>40%</td>
<td>Poor selection of target</td>
</tr>
<tr>
<td>20%</td>
<td>Poor negotiation</td>
</tr>
<tr>
<td>10%</td>
<td>Price to high</td>
</tr>
<tr>
<td>10%</td>
<td>Not adequate structure of financial deal</td>
</tr>
<tr>
<td>10%</td>
<td>Poor integration concept</td>
</tr>
</tbody>
</table>

*Source: BCG M&A Research Centre; Data provided by Thomson Financial/MDR*
capital. Three key ingredients for success for these firms are strategic focus (on growth areas and not targets), value discipline and focused integration planning, as shown in exhibit 5.2.

1. **Strategic focus**: To inoculate the business against risks and for optimizing returns it is essential to have a well defined corporate strategy based on detailed analysis of all options—including organic and acquisitive growth options. One needs to decide what role, if any, M&A should play in the overall game. Typically there are four main strategic reasons for acquisition:

To **acquire new capabilities**
- This appears to be the key driver in case of Videocon’s acquisition of Thomson colour tubes units (to gain access to additional manufacturing capacity and over 2,000 patents in the consumer electronics). In a similar vein L&T’s acquisition of the Malaysia–based Tamco Corporate Holdings seems to be towards building capabilities in the medium voltage switchgear.

To **establish a new business model**
- Bharat Forge’s acquisitions in the past few years have helped it build a unique capability of being able to ‘rightshore’ its operations. It has been able to leverage the India cost advantage along with proximity to all leading customers. This has helped it emerge from a small Indian forging outfit to one of the global leaders in automotive forgings

To **improve market position**
- Crompton Greaves has conducted several mid–sized acquisitions in selected product market segments successfully and now ranks amongst the top 10 transformer manufacturers with distribution presence and sales across the globe.

To **lower costs**
- There are a few examples of Indian firms acquiring firms and assets in different countries in order to both gain access to those markets and also improve its cost position further. Tata Chemical’s acquisition has helped it...
gain access to one of the lowest cost raw material source for its fertilizers.

2. Value discipline: Overpaying is one of the easiest and most common ways of squandering the value creation potential. It is hence important to conduct high resolution valuation.

Thoroughly testing the upside potential of the acquisition
- This requires bottom up projections based on a detailed performance analysis, interviews with customers, competitors industry experts and in depth study of consumption trends amongst heavy user segments.

Assessing the internal impact of the deal
- Understanding the time and resources that will get deployed and the impact this will have on existing internal initiatives.

Quantifying the cost of inaction
- Failure to buy a target not only closes off the upside potential but also exposes one to the risk that a rival will purchase the business. It is important to factor in the impact of a strengthened rival.

Carrying out pre–M&A exercise
- Managers should develop a set of cost and revenue upsides with quantified possibilities for their respective functions and be held accountable for their analyses. This ensures that projections are realistic and provide a ready to run road map for the post merger acquisition.

Establishing opening and closing bids in advance to avoid risk of deal fever
- Base opening bids on precedent transactions, a conservative estimate of the potential value creation and the funding constraints of the competing bidders. Base walkway price on an aggressive but realistic estimate of the upside as well as critical threshold for funding, dilution and earnings per share creation.

3. Integration planning: The process used for post merger integration often makes or breaks a deal. The trick is in finding the right balance between speed and thoughtfulness.

Communicating the business logic of the deal
- Staff and other key stake–holders including investors, must understand the strategic rationale, business objectives and post merger integration milestones and targets.

Separating the post merger integration process from the core business
- Post merger integration needs its own organisation, with a dedicated team of executives and faster than usual governance and deal making process.

Monitoring core business performance
- Important to establish early warning systems for any fall off in revenues. Also to consider temporary incentives for any sales staff and other key personnel.

Proactively managing the soft issues
- Taking cognition of the complex organisational and cultural challenges, with all the human uncertainties and concerns. Identifying key staff and keeping them on board and taking special care of new appointees.

Moving before the close of the deal
- Taking actions in advance that will help realisation of the benefits of the transaction immediately after it is finished.

Challenging decisions and assessing progress after the integration is deemed complete
- During the integration decisions often get taken on pragmatic or political grounds. It is important to revisit these decisions and question their contribution to company’s wealth creation potential.

M&A in manufacturing sector has picked up a lot of momentum in the last couple of years. With growing global aspirations and a premium on size and leadership the trend is only likely to grow stronger. However it will not be a journey without challenges. One would need to navigate challenges at all stages be it in ensuring that M&A is aligned with overall corporate strategy or in conducting an exhaustive target search or in doing a detailed high resolution valuation or in steering the negotiation discussions and lastly in realising value through a successful integration.
To overcome these challenges a comprehensive approach would be needed—one that delineates a clear process for all the different stages and ensures adequate alignment and interaction between the working team and the top management. During the research for this study, we were struck by the fact that many of the top value creators in the sector have actively used M&A to drive their growth. The interesting theme which emerged from some of the discussions with the companies interviewed as part of this report was the increased confidence in doing M&A. No longer is M&A seen as something unusual—it has now become a part of business as usual. Those who embrace M&A and show the stomach to manage challenges will take rapid strides towards building shareholder wealth and global leadership.
Why?

First the good news—the Indian economy is likely to sustain the pace of growth it has set for itself. GDP after growing at 6% during 2000–2004 has grown at 9% during the last three years(1). The manufacturing sector has grown at an even faster pace increasing its contribution to the overall GDP(1).

India’s core advantage, as everyone knows, is its manpower resource pool. What is less well known is what the underlying elements of this advantage are and whether they are likely to continue. The manpower advantage extends from manual labour to skilled manpower. Labour–wage levels in India are among the lowest in the world. In 2003, they averaged $1.12 per hour for a production worker—well below that of most low–cost countries, which average $2.10 per hour. What’s more, India’s wage rate is not likely to increase disproportionately in the near future, but is expected to grow in line with average growth of low–cost countries at about 6%–7% per year.

The country’s labour advantage extends beyond low wage rates. It involves the demographic profile too. India has a demographic bulge in the most salient age bracket of 20 to 35. And the future scenario appears even more attractive. India’s workforce surplus is likely to persist, while other countries (including key developed economies such as the US, Europe, and Japan, as well as fast developing China and Russia) are likely to face manpower shortages.

Savings due to lower labour costs can account for anywhere between 25% and 90% of the cost advantage that India offers, depending on the nature of the industry. (It is in areas such as maintenance, overheads and repairs that the 90% savings might be achieved.) And India’s productivity levels have been some of the highest among the emerging...
Exhibit 6.1: India’s talent pool its key strength

<table>
<thead>
<tr>
<th>A large pool of skilled people...</th>
<th>...with high end qualifications...</th>
<th>...and extremely cost efficient</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Availability of skilled labour, 2007</strong></td>
<td><strong>Availability of qualified engineers, 2007</strong></td>
<td><strong>Total compensation for managers/engineers, 2007</strong></td>
</tr>
<tr>
<td>USA</td>
<td>India</td>
<td>Germany</td>
</tr>
<tr>
<td>6.7</td>
<td>7.6</td>
<td>129</td>
</tr>
<tr>
<td>Germany</td>
<td>USA</td>
<td>USA</td>
</tr>
<tr>
<td>6.5</td>
<td>6.6</td>
<td>107</td>
</tr>
<tr>
<td>India</td>
<td>Brazil</td>
<td>Brazil</td>
</tr>
<tr>
<td>6.4</td>
<td>6.4</td>
<td>81</td>
</tr>
<tr>
<td>Russia</td>
<td>Russia</td>
<td>Russia</td>
</tr>
<tr>
<td>6.2</td>
<td>5.9</td>
<td>59</td>
</tr>
<tr>
<td>China Mainland</td>
<td>China</td>
<td>China</td>
</tr>
<tr>
<td>5.6</td>
<td>5.5</td>
<td>38</td>
</tr>
<tr>
<td>Brazil</td>
<td>Mexico</td>
<td>Mexico</td>
</tr>
<tr>
<td>5.0</td>
<td>5.5</td>
<td>70</td>
</tr>
<tr>
<td>Mexico</td>
<td>China</td>
<td>China</td>
</tr>
<tr>
<td>5.0</td>
<td>3.8</td>
<td>38</td>
</tr>
</tbody>
</table>

- India is the largest English speaking nation in the world
- India has the second largest pool of scientists and engineers in the World

1. Compensation is (US$ ’000) and includes salary plus bonuses
   Note: Survey results: 1 = Low; 10 = High
   Source: IMD World Competitiveness Yearbook 2007

Economies, especially in its world-class factories in pharmaceuticals, textiles and auto ancillary units.

Complementing the labour–resource advantage is that of skilled manpower—an enormous and high quality pool, with the bonus of widespread competence in English. Indian universities produce engineers, chemists, MBAs, and so on in large numbers—some three million graduates and 700,000 post-graduates every year, whose average salaries generally remain well below those of other low–cost countries. So India enjoys not only a cost advantage but also a great access advantage to highly skilled manpower, even in areas where global companies are generally facing bottlenecks. Exhibit 6.1 highlights the three key elements of India’s manpower advantage—large size of resource pool, high skill level and lower cost.

Now for the bad news—employees are becoming scarce, good employees even scarcer. A look at some of the recent headlines tells it all.

- The attrition rate in corporate India exceeded 20% in 2006\(^2\).
- India reported the highest (world–wide) average salary increase at 13.9% (for 2006)\(^3\).
- The attrition levels for managerial staff in manufacturing sector for 2006 reported to be about 27% much higher than even traditional churn sectors like IT etc\(^4\).

Even the best of the firms have not been spared. It is not surprising that in our discussions with industry captains, they talk so often about the ongoing struggle for talent and how they believe that to be the single biggest challenge to meet their growth aspirations.

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3. India Salary Guide 2006 by Kelly Services
4. Hewitt’s Attrition and Retention Study for Asia Pacific 2006
It is thus paradoxical that on one hand abundance of talent in India is being talked about, while on the other hand the Indian manufacturing sector is facing high employee attrition and scarcity of talent. A closer look at the problem throws up some answers—both on the demand and the supply side. On the demand side, the emergence of new sectors and the growing presence of MNCs have made it more difficult for the manufacturing sector to attract and retain talent. On the supply side, the quality of the entrants into the labour pool is not consistent.

- **Emergence of new sectors:** The emergence of new sectors like IT, ITES, telecom services and financial services has led to the creation of many opportunities—specially in the mid tier levels. The fast growth has necessitated filling these gaps from outside the sectors—and has seen a flight, if not exodus, from the manufacturing sector. These sectors are also seen as being more attractive and aspirational—with the promise of a more comfortable work environment and higher perceived growth.

- **Growing presence of MNCs:** Given the current pace of growth and future growth potential MNCs have been aggressively consolidating their presence in India. The offer of better compensation, a more professional environment and opportunity of global exposure has proven to be a lure for many.

- **Variable quality of fresh entrants:** There is a significant variation in the quality of the entrants in the labour pool. One of the recent reports suggests that about 25% of the engineering graduates are considered employable. As pointed out in a BCG-AIMA report a few years back, various committees have studied and made recommendations for boosting the quality of human resources. Most of the reports and committees have common themes, which suggest that there is agreement on what areas need to be worked on. However, the problem is the lack of alignment between the various interested parties, lack of continuity at implementing institutions and fiscal constraints.

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**Exhibit 6.2: Integrated talent management approach required**

<table>
<thead>
<tr>
<th>Plan</th>
<th>Rethink and redesign org model</th>
<th>Recruit</th>
<th>Train</th>
<th>Manage performance</th>
<th>Engage and develop employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine talent needs based on strategic and business requirements</td>
<td>Adjust organizational model to available sources and talent</td>
<td>Identify and nurture new pools for sourcing talent</td>
<td>Bridge gap between source and requirement through specific training</td>
<td>Align performance measures and incentives to desired outcomes</td>
<td>Support development of employee capabilities</td>
</tr>
</tbody>
</table>

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Success in this war for talent will require a thorough understanding of all the challenges and an integrated approach to address them.

**Challenges**

As firms embark on the journey to be the most preferred employer they need to overcome challenges across the entire employee engagement cycle. During discussions with various companies, we heard several themes that are striking.

**Difficulty in finding relevant talent pool**
- “It is increasingly getting very difficult to attract students from IITs and the IIMs. One needs to explore other talent pools.” — Managing Director, mid sized chemical company.

**Attracting the best talent**
- “The entire manufacturing and infrastructure industry is facing a problem as the vital engineering and technology manpower is going away to do programming for the IT industry.” — CEO, large engineering conglomerate.

**Retaining the bright ones**
- “In the recent past we have lost a lot of engineers to other sectors. For the ones who make the cut the choices are plenty. They are spoilt for offers. To retain them is no mean task.” — CEO, large electrical goods company.

**Building a leadership pipeline**
- “Fast growth as well as expansion requires leadership ramp up. Dearth of senior managers has hampered development of leadership pipeline.” — MD, large chemicals company.

One has little choice but to address these challenges if the global aspirations are not to be constrained by the availability of required talent.

**Potential approach to address talent challenge**

Addressing the talent management challenge will require an integrated manpower planning approach (refer exhibit 6.2). To understand what companies do to address each of these elements we have looked at examples from the pioneers in the Indian industry.

- **Plan:** Key talent priorities need to be driven by strategy through an integrated planning process. Very often the people plan is not tightly linked to the business operating plan. Many times, this is caused due to the people plan being seen as the responsibility of the HR function rather than being on the CEO agenda. In today’s situation, a tight linkage between the strategic plan and the talent management plan is a prerequisite to the success of this initiative. This requires a systematic process that creates a well understood vision and sustainable program linking the centre, business units, and geography.

- **Rethink and redesign organizational model to source / talent:** As the external environment changes, it is important to align the organizational model to the nature of talent available. Bharat Forge has taken the lead in changing the conventional model to match the requirements. It has taken it upon itself to address the talent gap by upskilling the available resources. They train farm hands to become factory workers and fresh engineering pass–outs to become floor supervisions. Rethinking the architecture of the entire manpower supply chain provides strategic solutions and longer term competitive advantages, whereas importing ‘best practices’ into processes within the old architecture often gives transient benefits only. One of our interviewees compared the latter to more elegantly rearranging the deck chairs on the Titanic, whereas what is required is a more fundamental change.

- **Recruit:** Recruiting the best talent requires a well designed and pro active approach. In today’s times, it is not sufficient to merely recruit from the traditional recruiting pools – that is the equivalent of fighting a share battle. At times, it requires going outside the conventional recruiting pools – equivalent of expanding the market. Genpact, the leader in the BPO business, moved into second tier towns when the growth of the industry was exhausting the usual pools for recruitment.
that all in the industry were dipping into (and raising the prices). To increase its success rate and manage costs of recruiting in these new pools, it deployed the concept of ‘retail, walk-in recruiting’. Within the manufacturing sector, it is interesting to note Bharat Forge’s initiative in talent acquisition. They reach out to the lesser known engineering schools in smaller towns to expand the talent pool. Bharat Forge has created a “talent pipeline project” with rural engineering colleges.

- **Train:** As discussed above, India has a large pool of human resources – however, everyone seems to be targeting the same pool – which is creating a scarcity and raising prices. Leaders amongst manufacturing companies after reaching out into new, unconventional, sources for ‘undeveloped’ talent invest in developing it. L&T and Tata Steel are developing skilled craftsmen (for L&T’s expanding requirements) in Orissa–where Tata Steel wants to expand and to provide local people, on whose lands it will build its facilities, the possibilities of earning in well-paying jobs–with L&T–a win-win all round! Liberty Shoes has ‘adopted’ the ITI in Karnal, and is upgrading its facilities and curriculum to ensure it has a source of skilled craftsmen. Similarly, Sona Steering has ‘adopted’ an ITI in Haryana.

- **Manage performance and careers:** Addressing attrition has in recent times been an even bigger challenge. This requires special initiatives to ensure freedom and flexibility. Incentives need to be aligned to the company goals. In recent times, manufacturing firms (for example L&T) have followed the example of IT firms and have offered ESOPs to ensure that top talent truly partners the gains made by the firm. This has enabled the firm to hold on to its best talent in the face of onslaught from Indian and overseas players. Accelerated career paths are as important for retention as it is for building a leadership pipeline. Firms like Satyam have gone to the extent of organizing themselves as mini firms (1500)—each with their own CEO to offer the challenge as early as possible.

- **Employee engagement and development:** It is important to ensure ongoing development of the human resources. Manufacturing leaders like Bharat Forge, Tata Motors, and M&M, who are creating world class organizational capabilities such as rapid product development, and breakthrough process improvements, provide their employees with challenges to learn and develop new capabilities. Thus they “engage” employees with the challenges of the enterprise and also challenges to enhance their own capabilities. ‘Engaged’ employees that see their own capabilities develop and their market value enhanced, relish their work. This builds stronger bonds with the company.

With economy in the overdrive, talent management will continue being on top of CEO’s agenda. India’s people advantage is not going to go away. However one will need to successfully harness it to succeed in the new Indian economy and the global arena.
What is innovation?

There can be several definitions of innovation. CII–BCG senior executive survey\(^1\) (2006) outlined several such definitions. While some define innovation as “finding new ways of problem solving” others see this more as a “combination of unique product, design and customer insights”. We define innovation as the process of transforming new ideas to create value for internal and external customers by breaking an existing compromise. There are some important aspects to this definition:

**Innovation builds on new ideas**
- Innovation is not the same as continuous improvement. It involves bringing something new to use. A practice that is unique to the organization or the society.

**Innovation creates value for the organization**
- An outcome/effort can only be classified as innovation if there is an economic value attached to it

**Innovation is not limited to products and services**
- It includes all new ways of addressing customer needs—from finding new uses for existing products to novel distribution network to new business models (refer exhibit 7.1).

In today’s competitive scenario, innovation is critical to achieving any strategic advantage. Over a period of time, players can copy specific initiatives on cost, quality and products. What is difficult to replicate is the ability to do continuous innovation. Some people have argued that the only sustainable lever of competitive advantage is the ability to learn, change and innovate faster than competitors. Research shows that companies that are more innovative systematically achieve superior performance than their peers.

In India innovation is seen as even more of a strategic priority. In a recent survey conducted by BCG

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1. *Manufacturing Innovation—A Senior Executive Survey—CII–BCG Report*

We would like to acknowledge the authors of this report for analysis and insight which have been used in this chapter.
### Exhibit 7.1: Innovation extends beyond new product development

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<td>Marketing model</td>
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<tr>
<td>Capability</td>
<td>Cemex's GPS-enabled delivery optimisation</td>
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### Exhibit 7.2: Innovation seen as a strategic priority in India

83% of Indian respondents consider innovation as a top/top 3 priority...  
...compared to 66% of respondents in the global survey

```
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*Source: BCG 2006 India Innovation survey, CII-BCG; BCG 2005 Global Innovation Survey*
and CII, 83% of the respondents considered innovation as a top 3 priority compared to only 66% in the global survey (refer exhibit 7.2)

The afore-mentioned survey brought out some key factors driving innovation. Under attack from global competitors, Indian firms can no longer succeed with low cost advantage alone. To retain and capture new consumers, product innovation is a must. Not only is innovation key to capturing growth, it is also needed for building a sustainable competitive advantage. Additionally, in the recent years there has been a build up in competitive intensity with new firms entering (domestic and overseas), shrinking product life-cycles, rising inputs costs, among other factors. This has accentuated the need for innovation.

India has seen some strong success stories in innovation. These throw up interesting learnings about different aspects of innovation. In the next section, we highlight one such success story—that of Moser Baer.

**Moser Baer: Business model innovation in home entertainment**

The home entertainment industry had been struggling to take off. In a country like US this market was as big as the market for out of home (theatrical) market. However, in India, home video market was not even 7% (of the theatre market). The reasons were not too difficult to fathom. DVDs and VCDs were way too expensive—resulting in the booming pirated home video market. Also the availability was restricted to select VCD and DVD parlours.

About a year back, Moser Baer entered this market as an outsider. To succeed it adopted a completely different business model based on two key innovations. Firstly, it brought down the prices dramatically by offering CDs for Rs. 24 each and DVDs for Rs. 38. This was driven by introduction of new product technology (on the back of 30 product patents) and aggressive bargaining with movie houses (based on promised scale). The other innovation was focused on distribution expansion. It expanded the footprint dramatically by reaching out to the channel for pirated DVDs/VCDs. In parallel, Moser Baer has managed to add a new lease of life to its core business of DVDs and CDs which was under threat from innovations in competing technology (micro-chips). This has given Moser Baer an opportunity to leverage content (bundling it with the hardware—DVD/CD) to stay ahead.

**Challenges in successful innovation**

The journey to come up with right innovations is fraught with challenges. Some key challenges as highlighted in the CII BCG executive survey—Innovation in Indian manufacturing, are

**Inadequate measurement of innovation performance:**
- Few companies believe they have right metrics to measure performance. Most settle for broad indicators such as customer satisfaction, number of new products launched, and so on.

**Long time to market:**
- 59% of participants in the survey felt that it takes too long for projects to move from the idea stage to market launch. In the global survey, 50% of the respondents pointed this as the most important challenge.

**Poor portfolio management:**
- Portfolio management includes systematic screening and prioritization of projects, alignment of resources against potential wins. This involves building a system of project hurdle rates and gates. It is as important to weed out ideas that are unlikely to succeed to ensure that resources are made available to the ideas that can potentially win. However in our survey, 44% of respondents said that less than 5% of projects were stopped at appropriate stage. Portfolio management systems are either not rolled out or not adhered to.

**Addressing these challenges**

The management of the entire process of innovation is a complex task that requires alignment of several key stakeholders. While there is no escap-
ing the need to bring about an organization wide change to make innovation succeed, there are some simple lessons that can go a long way in improving the management of the process.

**Focusing innovation efforts**
- Often Indian firms are found to be spreading themselves too thin in an effort to hedge their bets, which does not yield the desired results

**Strengthening innovation management**
- Putting in place processes to evaluate and screen ideas at the right stage to be able to focus resources against key areas

**Introducing metrics for measurement**
- Portfolio decisions need to be built on the quantitative estimates of cash flows and time and projects should be measured against these.

All of this is not a substitute for building the required organization. It is important to have the right mix of people, environment (supporting processes) and measures and rewards to bring about the right organization that is needed for building a successful innovative firm.

In conclusion we see innovation gaining centre stage with Indian firms seeing it as a source of competitive advantage—needed for capturing growth and dealing with increased competitive intensity. Of late some successful Indian examples have emerged where firms have undertaken business model and process innovations to change the rules of the game. However, managing innovation involves several challenges around measurement of returns, time to market, portfolio management and commercialization of launch. To address these challenges one needs to focus innovation efforts and introduce metrics for measuring innovation while building the required organization. Getting the innovation process right and firing the innovation funnel is no longer a choice. The ones who succeed in the journey will create significant shareholder wealth and leave behind those who fail to make the transition.
The last five years have witnessed significant growth momentum in the Indian manufacturing sector. It has grown faster than the overall economy since 2004. Given this strong growth, it would come as no surprise that the sector has also delivered high shareholder returns. However, what is surprising is the fact that the top three value creating industries across all sectors of the economy for the period 2002–07 are all from the manufacturing sector and not the much talked about new economy sectors.

Our study has revealed that many of the top value creators began their journey by focusing on operational improvements—to get the cost structure in line with global competition. This was a necessary, but by no means a sufficient condition for value creation. We found that many of the top performers have used four specific drivers of value creation—tapping international markets, well thought through and executed mergers and acquisitions (M&A), actively managing the human resources and innovation in products, process and business models.

Many top performers no longer consider national boundaries to be any constraint to their aspirations. Internationalization is used both as a means to tap newer and often bigger markets; and also to develop capabilities to compete with global players. While the mode and trigger for globalization varies by sector, the implications are very similar. Articulating a clear long term globalization target and roadmap that leverages India’s core strengths is critical for the globalization endeavours of Indian firms. This roadmap needs to address the key issues faced by companies attempting to go global—establishing a global supply chain and distribution network, developing products for the international markets and most importantly building a global organisation.

Most top performers in the sector have actively leveraged M&A to drive value creation. These acquisitions have helped Indian companies gain access to new markets, acquire capabilities and achieve scale in an accelerated fashion. However, many of the M&A transactions end up destroying value as the process is fraught with challenges at every step. The ability to successfully navigate through
these challenges requires clarity around the strategic objective, high resolution valuation and a well planned integration process.

It is well known that India enjoys the advantage of a large base of skilled, low cost, qualified manpower—and the underlying elements of this advantage are likely to continue. Top performing companies recognise the core advantage that they possess and actively manage their human resources in a disciplined manner. At the same time, many companies see availability of talent—at all levels—to be the only constraint for growth. We believe that a disciplined approach to manage talent starting with establishing a rigorous linkage between the strategic intent and the talent plan—and then managing actively the entire employee engagement cycle, from recruitment to exit will help Indian manufacturing sector sustain its growth.

Our study indicates that many top performers use innovation to maintain their competitive advantage. These innovation efforts are focused not only on new product development, but also process and business model innovations. Many of these are made even more effective by building networks and alliances. Increasingly, organisations are finding it more effective to conduct this innovation collaboratively. Thereby, organisations share complementary capabilities, costs and risks associated with such initiatives. It is crucial for the Indian manufacturing sector to network forward and backward in order to leverage the opportunity fully. Top performers in the sector harness innovation by focusing innovation efforts against few areas and strengthening innovation measurement.

Going forward, it is believed that the Indian manufacturing sector has an even larger role to play in the global manufacturing arena. At current trajectory the Indian manufacturing sector has the potential to rank amongst the top 3 to 5 manufacturing economies globally by 2035. Translating this potential into reality will require a larger number of firms to learn how to apply the identified drivers. These drivers need to be considered as the new ‘set of tools’ to win in the global marketplace.

We have also observed one emerging theme which may set the tone for Indian manufacturing in future. This is to view manufacturing from a different perspective—manufacturing is not merely shop floor production and assembly, but increasingly the integrated view of manufacturing includes elements around design and development. Indian manufacturing sector can and should leverage this evolving viewpoint as it affords several benefits. This viewpoint will enable the manufacturing sector to attract and retain valuable engineering and design talent that currently prefers employment in non manufacturing sectors. This integrated view of manufacturing will provide a competitive edge to the Indian manufacturing sector, in terms of engineering and design, and will allow India to compete and win in the global market.
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This report is part of BCG’s extensive work on manufacturing in India. For more information or to discuss issues related to BCG’s work on manufacturing in India please contact BCG’s leadership team related to manufacturing:

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CII is a non-government, not-for-profit, industry led and industry managed organisation, playing a proactive role in India’s development process. Founded over 112 years ago, it is India’s premier business association, with a direct membership of over 7,000 organisations from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 90,000 companies from around 350 national and regional sectoral associations.

A facilitator, CII catalyses change by working closely with government on policy issues, enhancing efficiency, competitiveness and expanding business opportunities for industry through a range of specialised services and global linkages. It also provides a platform for sectoral consensus building and networking. Major emphasis is laid on projecting a positive image of business, assisting industry to identify and execute corporate citizenship programmes. Partnerships with over 120 NGOs across the country carry forward our initiatives in integrated and inclusive development, which include health, education, livelihood, diversity management, skill development and water, to name a few.

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