

High Performance in Turbulent Times: Creating Advantage from Adversity



Contents

Foreword	3
Introduction	4
Executive Summary	6
Origin of the term "VUCA"	9
India's auto-component industry: An emerging manufacturing powerhouse	10
Section one: VUCA and Its Implications for the Indian Economy	11
Chapter 1: VUCA: The new global normal	13
• The global economic crisis of 2007-2008 and its aftermath	13
• Continuing operational challenges	15
• VUCA: The new normal	18
Accenture's approach for evaluating High Performance Businesses	19
Chapter 2: Decoupled no more: A double whammy for India	20
• Impact on short-term growth prospects	20
• Fiscal constraints	22
• Complex trade agreements	22
• An evolving situation	23
How nations use trade agreements to sustain manufacturing strength	24
Section two: Impact of VUCA on India's auto-component industry	25
Chapter 3: The impact	27
• On Indian consumers	27
• On OEMs and auto-component firms	29
• Pressure on the auto-components sector	29
• Evidence of resilience	31
India's machine tool industry	33
Chapter 4: High performance in a VUCA environment: Challenges to address	34
• The game-changing challenge	34
• Expectations' divergence	35
• Leadership issues	35
• Challenges in the context of external environment	36
• The need for tenacity amid multiple challenges	36

Section three: The silver lining and the shining stars	37
Chapter 5: A positive long-term story	39
• Strong macroeconomic fundamentals	39
• Rising middle class	40
• Preparation for permanent volatility	40
Chapter 6: Comparing high performers and their peers	41
Methodology for understanding high performance in the industry	42
Section four: An agenda for action	45
Obtaining inputs from industry-stakeholders	47
Chapter 7: The High Performance Business Framework and India's Auto-Components Industry	48
• Market focus and positioning	50
The aftermarket opportunity	55
• Distinctive capabilities	57
• Performance culture	65
Chapter 8: Creating an enabling environment	68
• Recommendations for OEMs	68
• Recommendations for ACMA	69
• Recommendations for the Government	69
Kurzarbeit: Germany's work-sharing program	70
Conclusion	73
High Performers	75
• Example 1: Serial diversifier	75
• Example 2: Technopreneur	77
• Example 3: Innovation operator	79
• Example 4: Passionate pragmatist with an eye on the future	81
• Example 5: Aftermarket champion	83
• Example 6: Visionary collaborators	85

Foreword

In May 2013, a group of auto component industry leaders got together to discuss the worrying state of the auto industry and what ACMA could do to assist its members in dealing with the year-long slowdown. The Rupee was in a free fall, demand for Commercial Vehicles was falling month after month, there were signs of further slowdown in GDP growth, the traditional export markets of Europe and USA were comatose, and there was a general air of despondency due to unutilized capacity, squeeze on margins and relentless pressure from OEMs to further reduce prices. Many auto component manufacturers had invested in major capacity expansion, based on the rather optimistic forecast by OEMs, and the momentum in exports in the last years. Now there was idle capacity, surplus workmen and red colour on the balance sheet.

At the end of series of subsequent discussions, it became evident that the auto component industry was facing an unprecedented challenge: how to survive and grow in an environment characterized by Volatility, Uncertainty, Complexity and Ambiguity – a scenario popularly referred to as VUCA.

As yet more meetings were held in the next days, it emerged that the VUCA environment is expected to continue, and is not a short term phenomenon. However, deeper analysis revealed that notwithstanding the VUCA environment, there are some high performance companies, surviving and growing through the challenging times. What are they doing differently?

To determine what the auto component manufacturers ought to do to achieve sales growth and improvement in margins, despite the slowdown, volatility and uncertainty, it was decided for ACMA and Accenture to engage in a joint study on what companies may do to become high performers in a VUCA environment.

Benefiting from 90 intense discussions with auto component manufacturers, big and small, Tier-1 and Tier-2, in segments as different as Heavy Commercial Vehicles, Passenger Cars, Tractors, and Motorcycles, this research provides a deep insight on what choices are available to companies to become winners.

The research provides several useful insights. For example: each company, based on

its size, core competence, resources, risk appetite and ambition, must decide "where to compete", and differentiate itself from rivals ("how to compete") and what "unique capability to develop" that will enable them to stay ahead.

The report recognizes the danger of "one-size-fits-all" approach, and hence recommends different options and actions that can be adopted by component manufacturers. While the report does not offer a solution that will meet the expectations of all ACMA members, yet, it is our hope that every ACMA member will find some takeaways that can help them become high performers.

Given the same environment, some companies do better than others, especially in a VUCA environment. This report underlines that the decisions you make viz. focus on operational excellence, reducing breakeven point by removing as much fixed cost from the system as possible, establishing responsible relationship not only with OEMs, but also Tier-2 and Tier-3 suppliers, recognizing the opportunity for import substitution and deep localisation (due to a weak Rupee) identifying sweet spots of profitable growth in new markets and new segments or adjacent industries—will decide how you eventually fare.

Achieving high performance in such a knowledge and technology intensive sector is a collective responsibility and can only be achieved with robust and sustained support of key stakeholders, such as the Government, the OEMs, and the auto component manufacturers. We have therefore made an effort to identify a set of actions that can be executed by each of these stakeholders to help auto-component manufactures across tiers emerge as high performers in this VUCA environment.

We are confident that you will find this research report very different and fresh in its approach given its consistent emphasis on achieving a fine balance between being action-oriented and thought provoking at the same time. To make the report inspiring, we have also incorporated crisp description of strategies that some of the high performers amongst us are executing. The objective being to let us continuously realize that high performance is real and can be achieved in a VUCA environment.

We take this opportunity to thank Past Presidents of ACMA, OEMs, senior officials from Government of India and various experts and thought leaders who shared their experience and knowledge which shaped our thinking, analysis and the conclusions.

In our view, this report should become a permanent reference. No matter how volatile and uncertain the business situation, there will be some insights that will inspire you and help you decide what to change and how to change. And win.



Surinder Kanwar

President
ACMA



Ashok Taneja

Chairman ACMA Committee
WTO, Economic Affairs &
Knowledge Partner Engagement



Sanjay Dawar

Managing Director
Accenture Management Consulting

Introduction

With a combined industry turnover of about US\$39.7 billion contributing 2.2 percent to India's gross domestic product (GDP),¹ the Indian auto-component industry has become the nation's manufacturing powerhouse over the past two decades.

Yet today the industry confronts a challenge: how to create value in a global environment characterized by volatility, uncertainty, complexity and ambiguity—a scenario popularly referred to as VUCA— and complemented by a weak macroeconomic environment in India.

Powerful changes in key economic forces, coupled with disruptive environmental, technological and geo-economic events, are exposing the industry to extreme volatility. Policy indecisiveness on the part of large developed nations is causing delays in global macroeconomic recovery, fueling further uncertainty about future growth and demand. Meanwhile, major shifts in consumption patterns, the regulatory environment and supplier relationships are making the competitive arena more complex and ambiguous than ever.

Beginning in 2011, the challenges facing India's auto-parts industry have deepened with the slowing of the nation's economy, which has weakened demand in all key market segments, including passenger vehicles, commercial vehicles, two-wheelers and industrial equipment.

Even though a domestic upturn may soon reignite the industry's growth engine, auto-component players will still need to effectively engage stakeholders in a global environment typified by volatile raw material and oil prices and exchange rates, uncertain technological shifts, complex global supply chains and ambiguous policies. VUCA is therefore the new normal.

To survive and thrive, industry players will need to transform themselves into High Performance Businesses (HPBs). Such firms consistently outperform peers, not only across business and economic cycles but often across leadership generations as well.

Some leading firms have intuitively figured out what they must do to operate successfully in a VUCA environment.

Some strategies aimed at attaining operational efficiency and monitoring cash flows are obvious. Others are innovative and require a clear market focus, distinctive capabilities and a performance-oriented culture.

This report shares Accenture's High Performance Business (HPB) framework in the unique context of India's auto-component industry. It begins with a brief investigation of the VUCA business environment, with a focus on what is different this time versus earlier challenging times. It also identifies key challenges facing the industry.

This research document builds on relevant insights derived by the research team from more than 90 exhaustive interviews with leaders of original equipment manufacturers (OEMs); CEOs, managing directors, and chairmen of auto-component companies in India; relevant industry associations; analysts from the venture capitalist and private equity community; industry experts from India; and Accenture experts from India and other developing and developed countries. The research team has validated key themes emerging from these discussions by using relevant industry- and company-level data analysis. In addition, the research team has carried out a detailed analysis using Accenture's proprietary High Performance Business framework, which provides insights into reasons that high performers consistently outperform their peers. Consequently, the report identifies key building blocks for Indian auto-component firms to become HPBs.

In addition, it provides differential analysis and actionable recommendations based on firm size, organized across different time horizons. The report has also compiled actionable recommendations for OEMs with a presence in India, the Automotive Component Manufacturers Association (ACMA) and the Indian Government. The publication concludes with five in-depth case studies of high performers, a case study examining the future of collaboration. The report also provides an interesting analysis of the support programs.

Given the diverse nature of firms that are members of ACMA, the report has been written to make it pertinent to a wide cross-section by engaging with companies of different sizes, organizations from different clusters in India and businesses that manufacture a wide variety of components.

This report will go a long way in helping India's auto-component industry grow profitably in the VUCA business environment.



Executive Summary

The Indian auto-component industry has become the nation's manufacturing powerhouse over the past two decades. Yet today the industry confronts a challenge: how to create value in a global environment characterized by volatility, uncertainty, complexity and ambiguity—a scenario popularly referred to as VUCA. The forces that have shaped the VUCA environment seem irreversible. VUCA is therefore the new normal.

At the same time, Indian industry has staggered under a “double whammy” after the latest global financial downturn, whereby the domestic market and export markets have suffered subdued growth simultaneously. The double whammy is making it more challenging than ever for Indian businesses to drive new growth in the VUCA environment.

For India's automotive industry, these VUCA driven realities are having complex implications:

- Consumers in the market for automobiles now expect more value for their money, in the form of innovative features and services. But owing to higher fuel prices and inflation, they are not willing to pay much more for added value.
- Sales growth slowdown of passenger and commercial vehicles during FY12 and FY13 is negatively impacting sales growth in the automobile sector.
- As a result of the sales growth slowdown in the domestic automobile industry and subdued growth in major export markets, a large section of Indian auto-component manufacturers are experiencing slowing sales growth, thinner margins and cash squeezes.

To survive and thrive in such challenging times, and grow in an environment characterized by permanent volatility, Indian auto-component companies will need to transform themselves into High Performance Businesses (HPBs). Such firms consistently outperform peers on Accenture's High Performance Business yardsticks, which include criteria related to value growth, revenue growth and performance consistency amongst others.

Despite the double whammy that has currently gripped the automotive sector, there is a macro-silver lining which is important for the auto-component industry to recognize. India enjoys several strong macroeconomic fundamentals. To illustrate, long-term domestic savings and investment rates at the national level are expected to remain stable. Moreover, many respected international institutions believe that growth in per-capita income will also likely continue, driven by improved labor availability and factor productivity. In addition, as the Indian middle class expands, consumer demand will likely intensify, leading to healthy per-capita GDP trends. At a micro-level, the High Performance Business analysis of a significant sample of auto-component manufacturers across the three tiers reveals that the industry does have its share of high performers across each segment.

These leading companies have been able to grow 1-1.7 times faster than their peers. Analysis of their business practices illuminates steps that other industry players can take to elevate their own performance.

In particular, Accenture has identified three essential building blocks for becoming an HPB:

Market focus and position

Distinctive capabilities

Performance culture

Market focus and positioning

Analysis of high performers in the auto-component industry in India and elsewhere in the world suggests that leading companies make well thought out decisions about their operating footprint (where to compete).

They look for opportunities to expand their operating footprint across five “axes”—including key customers, automobile sectors, geography, adjacent industries and links in the industry's value chain. HPB analysis reveals that high performers in small- and medium-category as well as the large category, are expanding their footprint across at least two to three axes, if not all five.

These high performers recognize that the operational footprint they choose can deliver the expected business outcomes only if their enterprise develops the right strategy for value-based differentiation from rivals (how to compete). High performers are seen to be taking into account five elements while developing their competitive differentiation strategy:

- Quality-continually improving product quality to retain existing customers and attract new ones;
- Cost-differentiation on cost without sacrificing quality;
- Design and technology- collaborating with OEM customers on design, and leveraging advances in high- end electronics, mecha- tronics and communications sciences;
- Delivery and timeliness- providing high-quality customer service in a timely manner;
- Management systems- assembling professionally run management systems that support cash flow and ongoing review of business performance.

Each of these five elements presents auto-component manufacturers with a combination of options they need to choose from on the basis of their operating footprint. High performers are seen to be identifying appropriate combinations of these options to achieve the desired type and level of competitive differentiation. Recognizing that there exists a trade-off in choosing one set of options over the other, they are seen to be exercising choices based on a thorough assessment of long-term gains promised by executing a particular choice.

Distinctive capabilities

After identifying 'where' and 'how' to compete, high performers determine 'what' hard-to-replicate capabilities they need to develop to execute their market focus. Research identifies five distinctive capabilities that high performers build to outpace their competitors: operational excellence, responsible relationships, technology development, strategic planning and data analytics. The best players are building hard-to-replicate capabilities in areas they believe are critical to help

them create differentiated value for their customers in the context of their operating footprint.

Operational excellence

For high performers, putting the shop floor in order is an imperative for achieving operational excellence. Such companies are working to reduce breakeven volume by removing as much fixed cost from the system as possible and carefully controlling variable costs. Moreover, they are striving for flexible manufacturing by building strengths to produce multiple models and products in small lots – a skill that is also valuable for serving the aftermarket.

They are further accelerating their journey toward operational excellence by establishing processes for reducing wastage, getting maximum value from low-cost automation and boosting labor productivity by (for instance) acquiring or building multiple skills as well as deepening their knowledge of customers' needs.

Responsible relationships

Relationships are central to an auto-component supplier's growth model. When relationships are characterized by trust and fairness, they create value and enhance performance at every link in the automotive industry's value chain. Indian auto-component companies have discovered firsthand that a mutually beneficial relationship with an OEM translates into more business with that customer while also creating opportunities with other OEMs. To that end, high performers are working to develop a collaborative and symbiotic relationship; for example, by taking the initiative to understand OEMs' problems and suggesting solutions to those problems. Similarly, industry leaders have seen that positive relationships with employees translate into higher workforce productivity, more innovative products and consistent quality in a company's offerings.

To build this distinctive capability, high performers are cultivating 'win-win' long-term collaborations with OEMs that create benefits for all participants. They are partnering with reputed technological institutions to generate innovations in product and service offerings as well as business processes and models. They are forging trust-based and performance driven relationships with their tier-2 and -3 suppliers by treating them in the way they expect to be treated by their OEM customers. And they are working to build healthy industrial relationships by sharing best practices, knowledge and resources to help one another grow and weather tough times and by leveraging the power of

industry associations to exert influence on key stakeholders.

Technology and development

In this space, high performers are actively seeking ways to use technology to transform product development. They are stepping up their technology development efforts by identifying and seizing the design, prototyping and engineering opportunities promised by deep localization. To do so, they are strengthening their understanding of their customer OEMs' challenges and operations. And they are investing in non-traditional partnerships to develop unique offerings.

High performers are investing in value engineering to deliver greater value for their customers with lower levels of wastage. And they are concentrating their process-innovation efforts on identifying and eradicating the root causes of their most pressing operational challenges.

Scenario planning

A number of auto-component manufacturers in India engage in scenario planning, but only a handful can say that such planning constitutes a distinctive capability for them. To develop sound plans, high performers are assessing macro and micro impacts, by extracting valuable insights from data gathered from customers as well as economic and industry trends—and then using those insights to inform their strategic plans. They are launching initiatives aimed at driving new growth through organic as well as inorganic means—such as expanding their operational footprint to serve adjacent industries and seizing merger and acquisition opportunities based on sound analysis and advice.

Such companies are also excelling at anticipating and managing business risks, shrewdly planning their manufacturing and capacity expansion efforts, and planning investments in ways that secure an acceptable return.

Data analytics

Auto-component manufacturers need to depend less on "gut instinct" and more on data-based decision-making processes and business models in the context of a VUCA environment. One key to success in this area is to base business decisions on a highly detailed understanding of data gathered from a wide range of operations and an array of different sources.

High-performing component manufacturers are working to spot and analyze important customer trends; for example, reaching out

to end consumers to understand their needs, and then using the resulting insights to develop products that are well received by their OEM customers. They are using data analytics to optimize raw material use and to also generate ideas for new offerings. They are analyzing cost and profitability data to gain new visibility into the margins associated with each type of a product. And they are investing in data-based demand-forecasting to more effectively manage inventory.

Performance culture

To build and extract maximum business value from the distinctive capabilities that can lead to high performance, auto-component suppliers must establish the right culture— one centered on performance. Four practices can help them build such a culture: reconsidering the promoter's role, developing a leadership pipeline, encouraging open innovation and creating a best-in-class operating environment.

Reconsider the promoter role

In the VUCA environment, promoters will need to redefine some of their responsibilities. For example, promoters at some of the largest and most successful auto-component manufacturers are consciously disengaging from day-to-day operations so that they can focus more sharply on defining the company's strategic growth path for the coming decade. In smaller high performers, promoters are "leading from the front" – they are engaging more effectively and consistently with their shop-floor employees and junior management to earn their confidence and support.

Promoters need to play a central role in keeping employees motivated, ensuring that customers remain confident in the company's abilities and making certain that operations are optimized—three responsibilities that are more crucial than ever in today's challenging business arena. Promoters need to recognize that employee motivation is no more only linked to perks and incentives but is increasingly connected to empowering employees by providing them a "real say" in decision-making processes. Whereas, customers are more confident to work with component manufacturers who have institutionalized the culture of authentically integrating customer requirements into their deliverables with speed. To truly optimize operations, promoters have to adorn the role of mentors – counselors who can work closely with management and operations staff to stave them off from taking on knee-jerk reactionary decisions.

Develop a leadership pipeline

In addition to reconfiguring the promoter role, Indian auto-component manufacturers will need to develop a strong leadership pipeline. That will require the ability to cultivate a "band of leaders" across the organization who can inspire experimentation, promote collaboration among people from different parts of the company and create a workplace culture oriented to high performance. Executives can also benefit by knowing who is contributing most to the company's growth, and then investing in these employees' professional development; for example, by providing coaching, training and other advancement opportunities.

Encourage open innovation

Auto-component manufacturers that can deliver market-driven new offerings efficiently will stand the best chance of pulling ahead of domestic and foreign rivals alike. To accomplish this feat, companies will need to invest in open-innovation infrastructure. In a business environment that has grown increasingly networked and transparent, such infrastructure will comprise not only in-house innovation teams but also key customers and selected suppliers.

High performers are seen to be taking steps to "democratize innovation." Their senior managers are providing junior employees the freedom, resources and incentives needed to generate, experiment with and develop new ideas that, once implemented, will translate into innovative offerings, business processes and business models. Such companies are establishing awards that remove the stigma associated with failure can further foster open innovation.

Create a best-in-class operating environment

A best-in-class operating environment produces a range of vital benefits for Indian auto-component companies. It can help them reduce their operating costs as well as improve their asset productivity. In addition, it can position them to earn better returns on their capital investments. Equally important—perhaps even more so—it can inspire confidence, a willingness to work hard and a sense of pride and belonging among shop-floor employees.

Workplace safety is an apt example. Always an imperative in companies with manufacturing operations, safety is a key requirement in overall business operations today. With this in mind, high-performing auto-component manufacturers are

incorporating safety into every aspect of their manufacturing processes and reinforcing it with the right technologies and training programs.

Creating an enabling environment

Establishing the right market focus and position, building the right distinctive capabilities and fostering a performance culture will not be enough to produce more high performers in India's auto-component industry. All stakeholders in the industry's ecosystem—OEMs, ACMA members and Government—will need to work together to create an environment that enables high performance.

For automotive OEMs in India, critical efforts will include graduating from a transactional relationship with auto-component suppliers to a collaborative, symbiotic one. For example, OEMs can lend equipment to their tier-2 suppliers and train suppliers' employees to use the equipment. OEMs can also support components manufacturers through simple measures such as providing component manufacturers with accurate and timely short-term demand estimates along with realistic medium- to long-term projections for capacity investment planning. OEMs can also mentor component companies (for example, by helping them build their scenario-planning capabilities) and help parts suppliers reduce their costs, which can translate into more favorable pricing for OEMs.

For ACMA, valuable moves will include explaining the High Performance Business Framework (discussed in this publication) to member companies and facilitating interaction between aspiring high performers and companies that have already achieved this level of performance. In addition, the association can develop a diagnostic tool enabling member companies to assess their operations' effectiveness and identify areas for improvement. Finally, ACMA can help member companies use insights about HPBs and results from their self-diagnosis to select a course of action for sharpening their market focus and position, building distinctive capabilities and fostering a performance-oriented culture.

For the Indian Government, key steps will include implementing a goods and services tax to replace indirect taxes, creating a level playing field for domestic manufacturers by (for example) selecting fair duty concessions for auto-components during trade-agreement negotiations, and removing inverted duty structures and involving industry in international trade

negotiations. Additional potent actions on the part of Government could include further incentivizing R&D by (for instance) facilitating the creation of innovation clusters, helping the industry develop needed talent by creating more specialized institutes of training, liberalizing the nation's labor markets and reducing the cost of capital through (for example) defining more favorable interest rates.

When ecosystem members work together in these and other ways, the result will be auto-component enterprises that can establish a strong presence in markets with the greatest growth potential. These companies will create wealth for themselves as well as for the industry overall. In addition, they will help to build a nation of engineers, technicians, skilled personnel and accomplished business leaders—thus enabling India to achieve its goal of inclusive growth. All of these stakeholders can win—along with the Indian economy.

Origin of the term "VUCA"

The acronym VUCA was introduced by the US Army War College, which is the graduate school for generals-to-be in Carlisle, Pennsylvania, to describe the volatile, uncertain, complex and ambiguous multilateral world that took shape after the Cold War ended.

"VUCA" was subsequently adopted by strategic business leaders to describe the chaotic, turbulent and rapidly changing business environment that has become the "new normal." The letters in the acronym have the following meanings:

V for volatility – implying unpredictability in the speed, volume and magnitude of change

U for uncertainty – suggesting lack of predictability in the timing of certain events or deployment of actions

C for complexity – indicating that phenomena or forces driving phenomena are difficult to grasp, to understand and to act on

A for ambiguity – implying that phenomena and their outcomes are hazy and unclear precisely when one wants to understand them better

Sources: Accenture analysis and Lawrence, K., "Developing Leaders in a VUCA Environment," UNC Kenan Flagler Business School, 2013.

India's auto-component industry: An emerging manufacturing powerhouse

The global automotive industry has been characterized by strong growth for more than a century. In many countries, the industry accounts for a significant share of nation's GDP. For instance, automobiles and auto components make up about 5% percent of US GDP.ⁱⁱ

Contributing 2.2 percent to India's GDP, the Indian auto-components industry is now more diverse than ever, with more than 6,000 companies operating across its different tiers. It has been growing at 14.6 percentⁱⁱⁱ per annum over the past five years, and in FY2013, total revenue for the industry reached US\$39.7 billion. The industry has a comprehensive product range boasting more than 350 different parts. However, engine, transmission and steering parts make up more than 50 percent of its total revenue.

Exports to more than 160 countries have been growing at 17 percent per annum over the past five years and currently account for 24 percent of the industry. Exports to Europe and North America make up 60 percent of total exports, and those to Asia account for 25 percent.

The industry's global ambitions are evident in other developments besides export growth. For example, in the last five years, auto-component manufacturers of Indian origin have acquired assets through mergers and acquisitions (M&As) or establishing manufacturing facilities across 20 countries.

The industry has traveled this journey of value addition and diversification over the last decade through conscious efforts in the area of quality enhancement. It now has 576 ISO-9001 certifications, 467 TS-16849 certifications, 208 ISO-14001 certifications and 105 OHSAS-18001 certifications. Second only to Japan, India's auto-components industry also has the highest number of Deming awards to its credit. In addition, the industry boasts 15 Total Productive Maintenance (TPM) awards, three Japan Institute of Plant Maintenance (JIPM) awards, two Japan Quality medals and one Shingo Silver medallion.^v

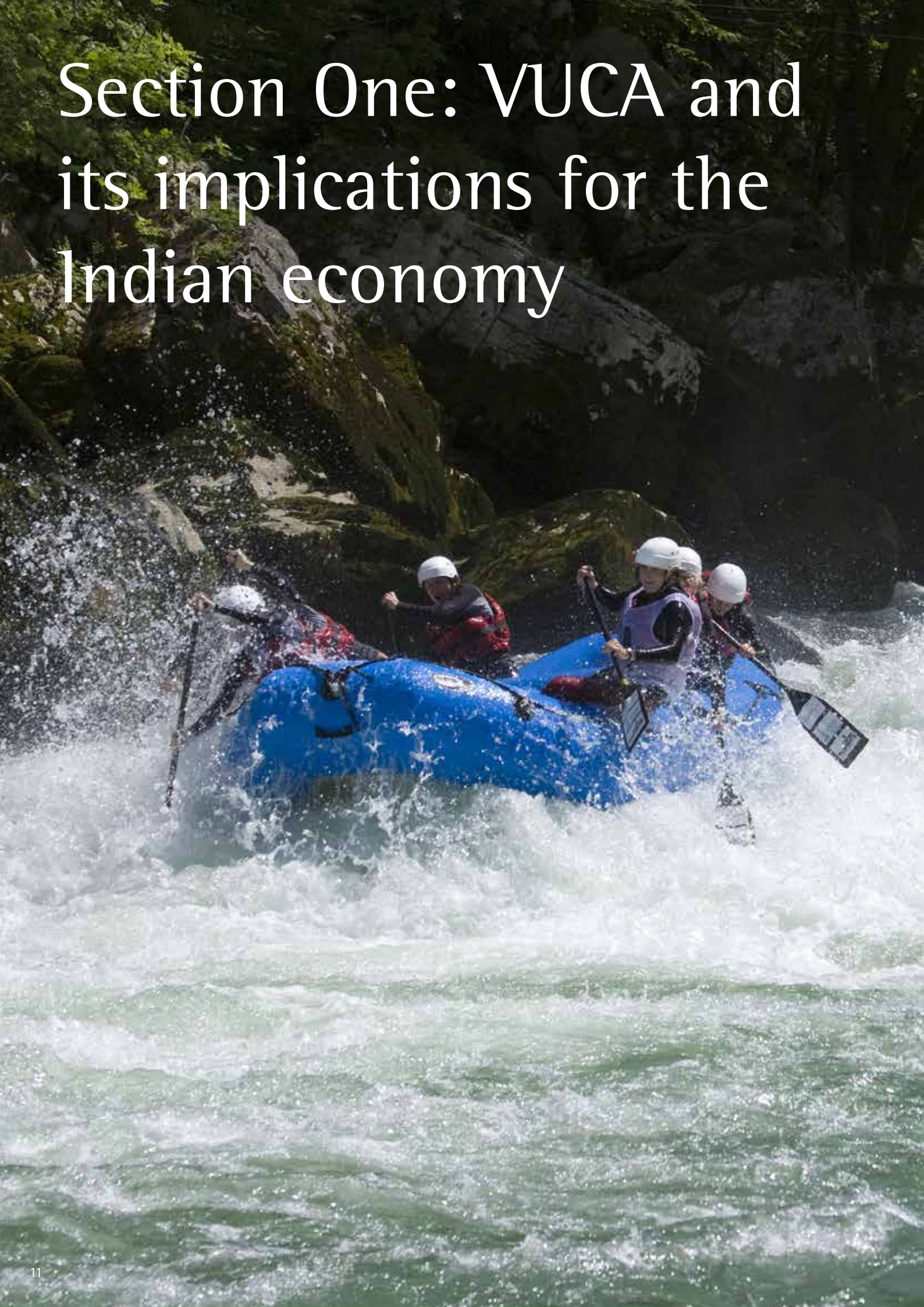
Economic openness has been the hallmark of this eventful journey. Joint ventures and collaborations between Indian companies and foreign suppliers or foreign OEMs are on the rise. Many of the world's most competitive auto-component manufacturers—located in South Korea,

Japan and Thailand—can access the Indian automotive market freely, as many of their products enjoy a duty-free status under the respective trade agreements that India has signed with their host countries.

By 2020, the auto-component industry in India aspires to:^{vi}

- Grow total revenues in the range of US\$103-\$115 billion
- Generate jobs for about 2 million people
- Contribute 3.6 percent to India's GDP

Section One: VUCA and its implications for the Indian economy



Chapter 1: VUCA: The new global normal

- The global economic crisis of 2007-2008 and its aftermath
- Continuing operational challenges
- VUCA: The new normal

Accenture's approach for evaluating High Performance Businesses

Chapter 2: Decoupled no more: A double whammy for India

- Impact on short-term growth prospects
- Fiscal constraints
- Complex trade agreements
- An evolving situation

How nations use trade agreements to sustain manufacturing strength



Chapter 1: VUCA: The new global normal

The world has experienced numerous economic crises during the last six decades. ^{vii} But commentators describe the global financial crisis of 2007-2008 and its aftermath as the most challenging since the Great Depression of 1929. Economies around the globe are still reeling under the impact of this crisis, and sustained global recovery, though increasingly evident, has yet to take firm hold.

The operational challenges facing the global automotive industry in the aftermath of this crisis have had multiple defining characteristics. Volatility in raw materials prices, exchange rates and unprecedented environmental disasters have disrupted automotive supply chains. Uncertainty about a global macroeconomic recovery has dampened consumer confidence.

Complexity and ambiguity surrounding technological disruptions, regulatory shifts and customer preferences across major global markets are intensifying difficulties. Together, these characteristics have created what we and many others call the VUCA business environment, an acronym that captures the defining characteristics of this new normal.

The global economic crisis of 2007-2008 and its aftermath

The worldwide economic crisis that swiftly enveloped all major globally integrated economies in 2007-2008 dented GDP growth across all the developed industrial nations simultaneously. (See Figure 1.)

The simultaneity and spread of growth slowdown experienced in the wake of this crisis are unprecedented. A quick comparison of the present macro economic situation with two other crises that affected the global industrial climate in the immediate past explains why. As Figure 1 shows, the South East Asian crisis of 1996 left the European Union and the US largely unhurt, enabling both to absorb shocks triggered by the crisis. The South East Asian crisis was followed by the US dot-com crisis in 2000-2001.

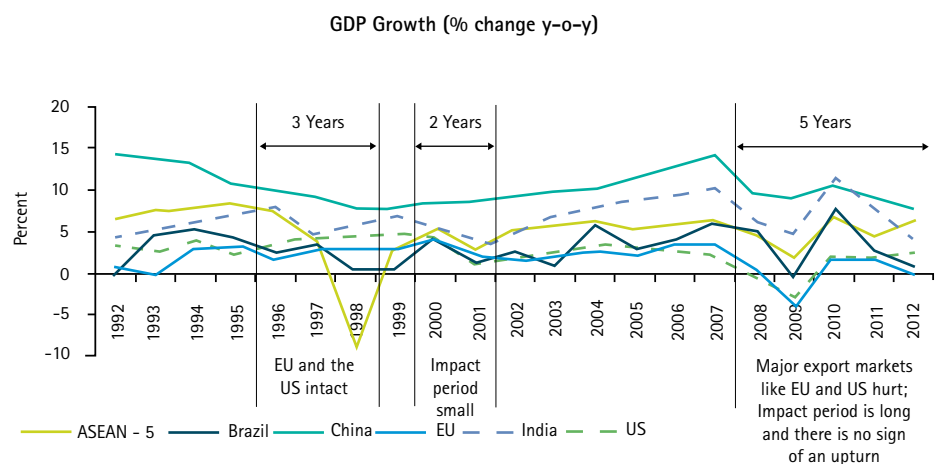
While that crisis impact proved widespread, the negative effect on global growth lasted only a short time, and the upturn was swift. Unlike after the US dot-com crisis and the South East Asian crisis, there has not been a solid comeback following the most recent global downturn. Signs of global recovery emerge but then swiftly disappear.

As depicted in Figure 1, the world enjoyed some short-lived economic relief in 2010, but global growth slowed sharply again in 2011, and remains subdued.

Most important, countries such as Brazil, China and India—which collectively have the potential to support global growth in such tough times—are experiencing economic stress. Moreover, the EU and the US have yet to register a sustained comeback. Hence these economies offer no significant prospect of providing much-needed market support—in the form of demand for products and services—to large emerging economies during their time of need.

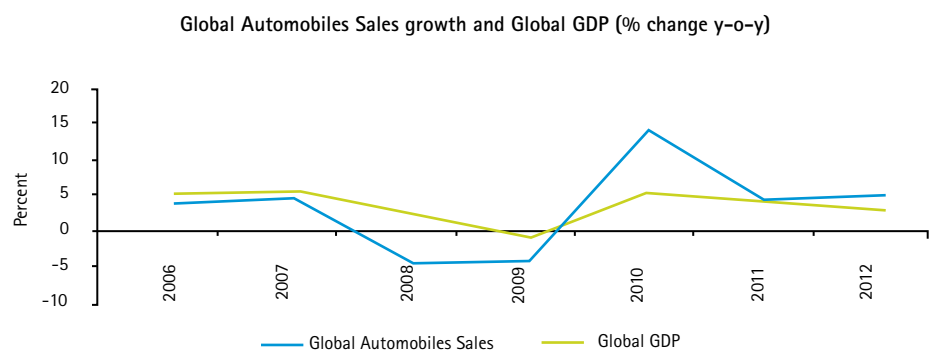
For the global automotive industry—and thus the global auto-component industry—all of these manifestations of worldwide growth uncertainty have worsened demand uncertainty. (See Figure 2.)

Figure 1: Comparing three global economic crises



Sources: IMF World Economic Outlook, 2013, and Accenture analysis.

Figure 2: Demand uncertainty plagues the global automotive industry



Sources: IMF World Economic Outlook, 2013, and International Organization of Motor Vehicle Manufacturers (OICA).



Continuing operational challenges

In addition to persistent demand uncertainty, the global automotive industry has been exposed to a volatile, complex and ambiguous business environment. The sustained lack of certainty and confidence results from the interplay of key factors and events such as:

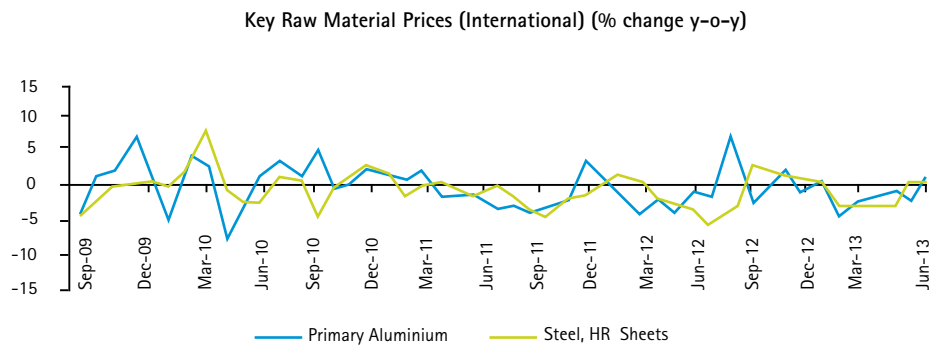
- Volatility in prices for key raw materials
- Complex movement in exchange rates and changes in automobile consumers' preferences in mature and emerging markets
- Disruption of supply chains resulting from environmental disasters
- Fast-changing technologies and ambiguous regulations

Raw materials and power and fuel costs

Subdued economic growth has not helped stabilize prices of key raw materials required by the automotive industry, such as aluminum and steel. (See Figure 3.) Prices of crude oil have also proved extremely unstable.

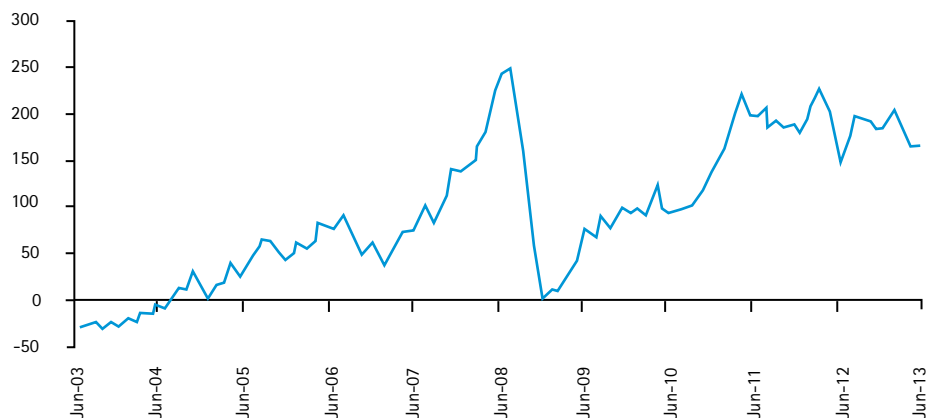
Currencies such as euro and yen that were fairly stable against US dollar until 2008 have experienced heightened volatility largely owing to interplay of growth dynamics and trade imbalances since the global economic crisis. (See Figure 4.) The scale and speed of variation in currency exchange rates are creating a complex business environment for trade-intensive sectors such as automotive. Owing to price volatility in key raw materials accompanied by exchange-rate volatility, companies are struggling to determine the optimal hedging strategy to mitigate risks.

Figure 3: Global Commodity prices show extreme volatility



Source: Centre for Monitoring Indian Economy (CMIE)

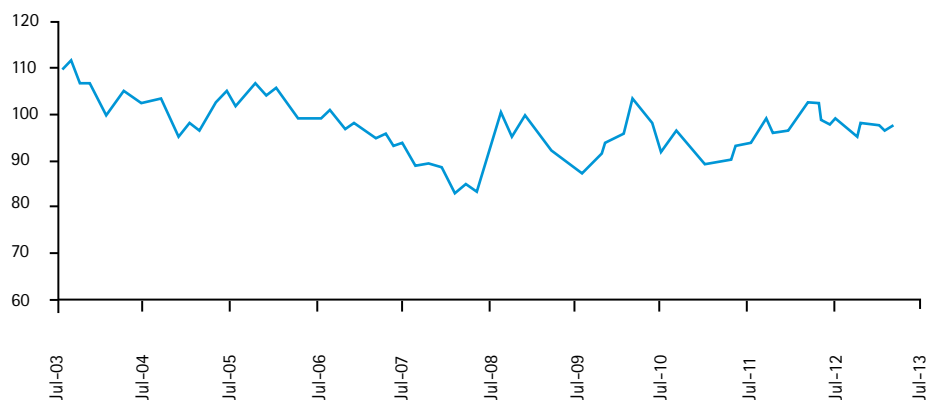
Europe Brent Crude Oil Spot Price Index (2004 average = 100)



Source: US Energy Information Administration

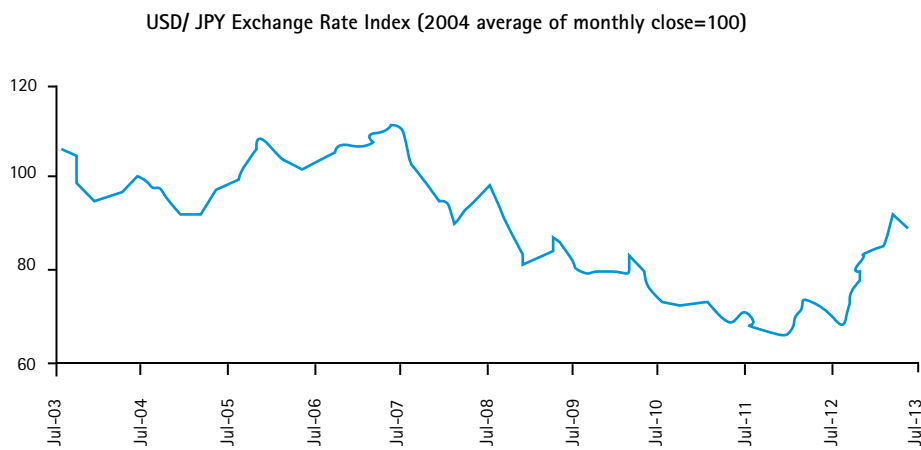
Figure 4: Major currency exchange rates vary widely

USD/EUR Exchange Rate Index (2004 average of monthly close=100)



Sources: OANDA Historical Exchange Rates and Accenture analysis.

Figure 4 A: Major currency exchange rates vary widely



Sources: OANDA Historical Exchange Rates and Accenture analysis.

Figure 5: Top expected automobile markets

	2005	2008	2012	2018
1	USA	USA	China	China
2	Japan	China	USA	USA
3	China	Japan	Japan	India
4	Germany	Germany	Germany	Brazil
5	UK	Russia	Brazil	Japan
6	Italy	Brazil	India	Russia
7	France	Italy	Russia	Germany
8	Spain	UK	UK	UK
9	Russia	France	France	France
10	Brazil	India	Italy	Italy

Sources: International Organization of Motor Vehicle Manufacturers and Accenture analysis. (Actual numbers have been provided for 2005, 2008 and 2012 and estimations for the year 2018)

Changing consumer preferences

Not so long ago, the Triad markets—North America (excluding Mexico), Western Europe and Japan—accounted for a majority of automobile sales. Today, emerging markets such as China and India have become much more important as sales and production hubs. (See Figure 5.) Together, the BRICS (Brazil, Russia, India and China) constituted 35.1 percent of global vehicle production and 37.3 percent of global vehicle sales in 2012. This has had a profound impact on automotive OEMs' product portfolios and thus those of auto-component companies in India and around the globe. Emerging-market consumers are much more frugal and value-minded than Western consumers. To satisfy frugal consumers in the developing economies, OEMs and auto-component firms must provide new and "just right" solutions at affordable prices.

With an increasing number of players serving the same markets, customers have grown used to having a wider range of choices – in both emerging and developed markets. Consequently, they are not shy about expressing their ever-shifting needs and preferences. As a result, vehicle-model lifecycles are shrinking. Automakers therefore need to diversify their offerings and the options available for each model. In the early 1990s, leading German automobile brands, each had to put just seven or eight models on the market to stay competitive. That number has since tripled, as these brands have added more and more variations to their portfolios. This is driving change in the auto-component industry as well, with suppliers implementing more automation and reviewing product range to meet customers' requirements.

Environmental disasters

The global automotive industry has moved from local to global supply chains. Hence, a car sold in India today may have components produced in China, Thailand and other ASEAN^{viii} members, Taiwan, Europe and Japan.

Such interconnected supply chains are particularly vulnerable to environmental disasters. And damage to global supply chains can badly erode consumption and investment. A drought can wipe out the purchasing power of populations over months, and floods can skew investment and supply chain productivity.

Consider the devastating impacts of the 2011 earthquake and tsunami that struck Japan, which the Indian auto industry also felt almost immediately. After the tragedy, Toyota India announced a 70 percent drop in production due to supply constraints from Japan, while Honda India announced a 50

percent cut in production because of supply shortages in Japan.^{ix} This also had a trickle-down effect on sales for auto-component suppliers in India.

Unfortunately, the economic damage caused by natural disasters has peaked precisely when global economic growth has been the most stretched. Indeed, the total economic damage caused by natural disasters during 2009–2012 exceeds the damages incurred by nations during 2005–2008 by about US\$500 billion. (See Figure 6.) This has put an extra burden on nations' already strained balance sheets during one of their weakest growth runs in recent times.

Changing technological and regulatory environment

Technological disruptions, while presenting tremendous opportunities for businesses, are also pushing complexity to new levels. In the automotive industry, thanks to innovations during the last decade, there are already at least 30 computer processors in a basic vehicle model, and up to 80 in high-end vehicles. Some processors add new functionality (such as voice recognition and assisted parking), while others have taken over the duties of older analog technologies (diagnostics, braking, transmission). Automotive design has also been fully computerized, as has much of testing. New metals and materials are improving exponentially, too, in part because of increased computerization of everything from mining to global sourcing to international shipping.

Fast-changing technology is also radically reshaping the marketing, sales and servicing of automobiles. Take consumers' ability to research, negotiate and purchase vehicles using the Internet. Not that long ago, skeptics claimed that no one would ever buy a car on the internet. After 13 years of expanding operations, eBay Motors alone has sold more than 4.3 million used cars—most of them in the last five years alone.^{xi}

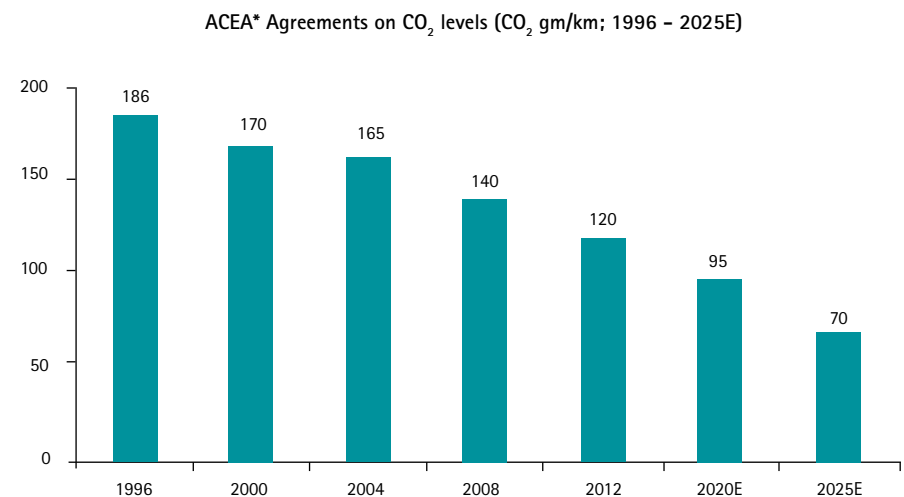
In addition to technological trends, voluntary binding agreements remain susceptible to renegotiation and thus do not provide a clear policy signal, especially for businesses interested in entering these markets. Such agreements include the one between the European Automobile Manufacturers Association and the European Commission on reduction in CO₂ emitted by passenger cars sold in Europe. (See Figure 7.)

Figure 6: Economic damage from natural disasters

Year	Average global growth rate (%)	Total economic damage (US\$ billion)
2005	4.50	434
2006		69
2007		149
2008		383
2009	2.95	94
2010		267
2011		749
2012		395

Sources: USAID

Figure 7: Environmental regulation and the automotive industry



*European Automobile Manufacturers' Association; for expanded forms of ELV, WEE, REACH, RoHS and EuP please see endnote xii.

Sources: European Automobile Manufacturers Association and Motor & Equipment Manufacturers Association, Energy

VUCA: The new normal

The forces that have shaped the VUCA environment seem irreversible. Trade and financial flows are expected to multiply, as will penetration of communication and information technologies. Global trade from US\$44.4 trillion in 2012 is expected to grow to US\$63.4 trillion by 2018.^{xiii} The world already has more cellphone connections than bank accounts, and this trend will only gain momentum. All of this will intensify the interconnectedness of businesses and consumers across markets and nations, making all participants even more vulnerable to shocks.

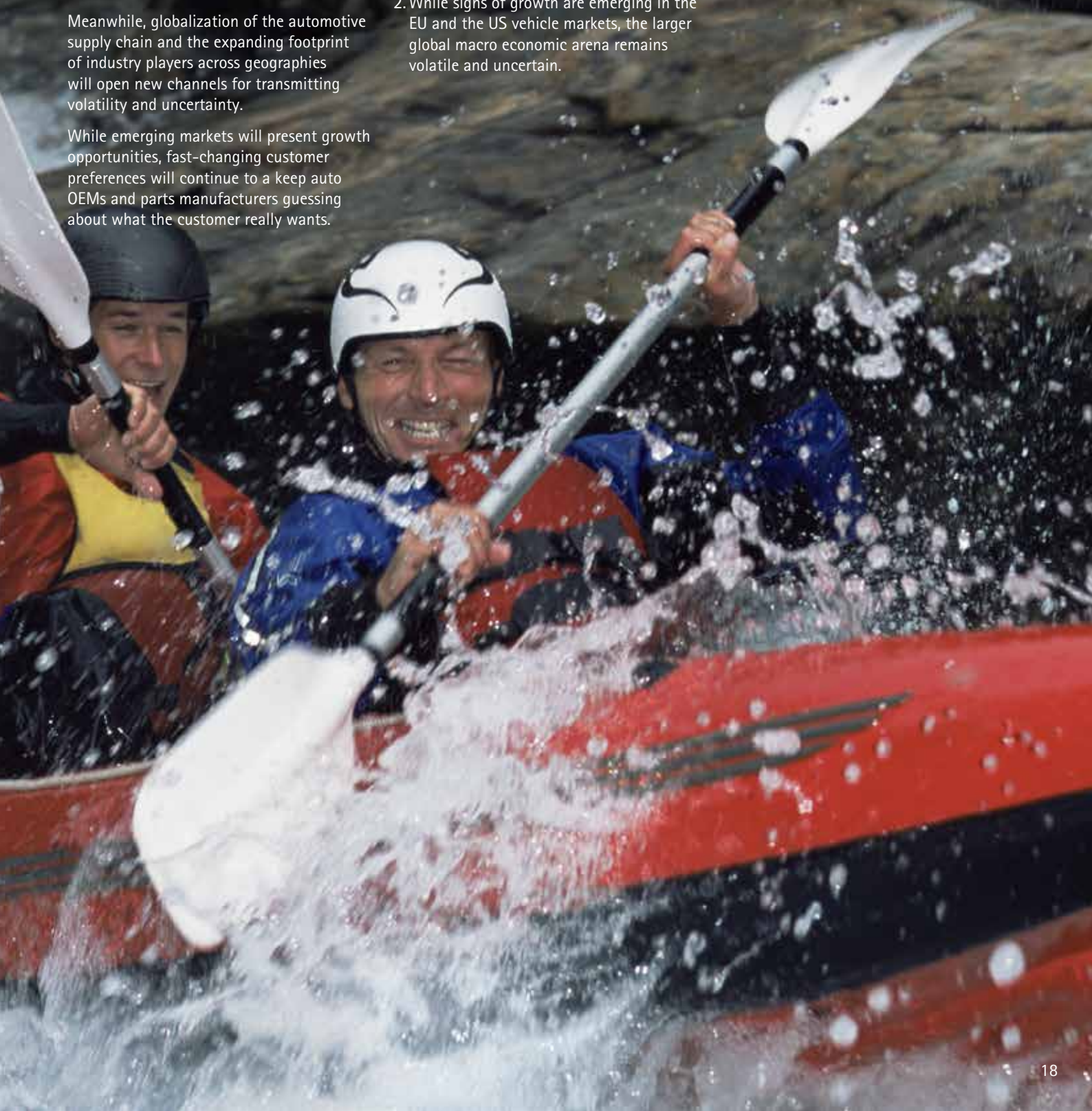
Meanwhile, globalization of the automotive supply chain and the expanding footprint of industry players across geographies will open new channels for transmitting volatility and uncertainty.

While emerging markets will present growth opportunities, fast-changing customer preferences will continue to keep auto OEMs and parts manufacturers guessing about what the customer really wants.

With mainstream options to resuscitate global macro economic growth fast losing steam, the evolving experimental policy environment risks delivering ambiguous signals to industry players.

Quick takeaways

1. VUCA is real and is here to stay. This is now the age of permanent volatility. Hence companies need to incorporate VUCA's impacts into the way they plan and make projections.
2. While signs of growth are emerging in the EU and the US vehicle markets, the larger global macro economic arena remains volatile and uncertain.
3. Volatility and uncertainty stem not only from economic forces but also from environmental and geopolitical shocks. Hence, auto-component players must continually evaluate the impacts of these developments on their businesses.
4. Market complexity is set to multiply as automobile makers seek ever more value from component manufacturers to satisfy consumers profitably.



Accenture's approach for evaluating High Performance Businesses

A high performance business is one that has achieved enduring or sustained outperformance of peers, across business and economic cycles, often across generations of leadership, as measured by widely accepted financial metrics.

Introduction

Accenture's High Performance Business research is a worldwide project covering thousands of enterprises across a wide range of industries. More than 6,000 companies have been analyzed in depth, from which more than 500 have been identified as HPBs.

Unlike other performance assessment efforts, which use basic financial measurements such as operating profit, Accenture's approach uses a combination of five different metrics to evaluate an enterprise's performance. The result is a more comprehensive and accurate assessment.

Execution capabilities are measured by growth, profitability and consistency. While growth refers to sales, profitability refers to the spread that the company can deliver; that is, the return on invested capital over the weighted average cost of capital. Consistency measures the relative performance of the company as compared to its peers over a number of years. Expectations are measured by future value and consistency of total return to share holders.

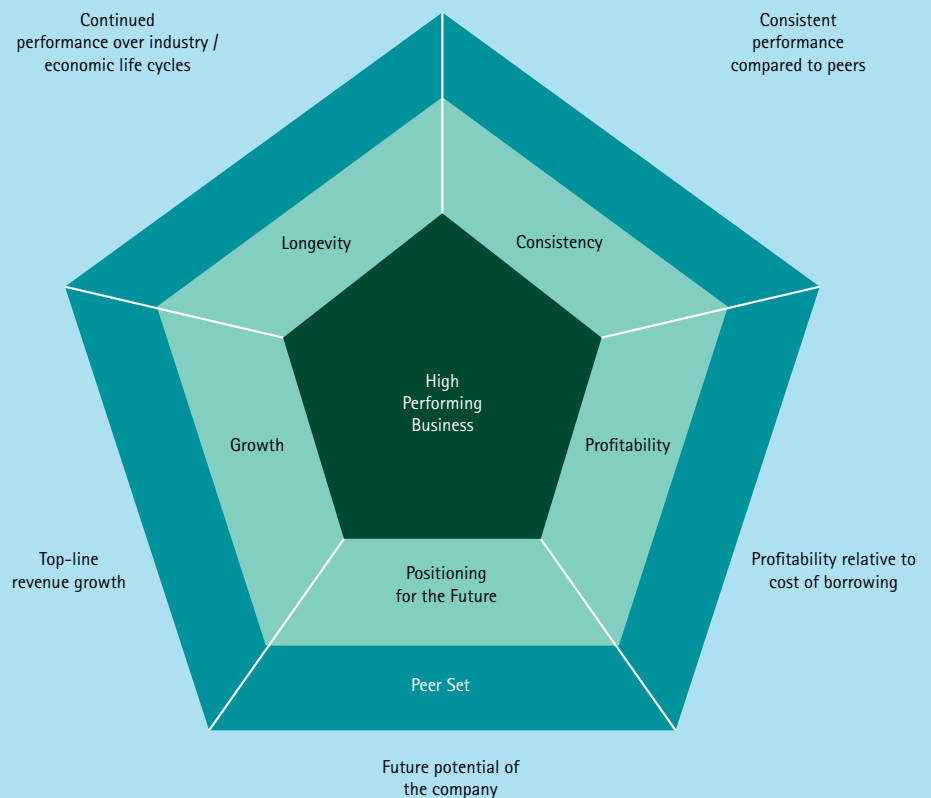
Financial screening and analysis of HPBs

In assessing a business performance on the five criteria of profitability, growth, positioning for the future, consistency and longevity, a company's results is classified within its peer group using a standard distribution, calculating HPB scores on a scale of 0 to 5. The overall HPB score per company within its peer group is the unweighted average of the score for the five criteria.

Calculating the five criteria¹

- Growth is calculated as the unweighted compound annual growth rate for revenue for at least a minimum three years
- Profitability is calculated as the unweighted average spread over periods of a minimum of three years
- Consistency is calculated as the number of years over a three-year period that the

Five Components of High Performance



company has scored in the top median of its peer group in terms of growth, profitability and positioning for the future

- Positioning for the future is calculated on the basis of future value over a period of a minimum three years and the change over two periods of time. Future value is enterprise value minus value of current operations
- Longevity is calculated as the compounded annual growth rate of total return to shareholders (TRS) during the past three years. TRS is share-price increases plus dividends.

Building blocks of high performance

A high performance business excels on all these five fronts and constantly adapts to market changes to achieve dynamic growth. The three building blocks of high performance are:

- Market focus and position – A clear understanding of competitors; future market conditions; and development directions; leading to decisions on where and how to compete
- Distinctive capabilities – Unique capabilities that are hard to emulate and

which can serve as a basis for competitive advantage

- Performance culture – Underlying culture, leadership and way of thinking, which enable the organization to outperform its rivals

The determinants that make up each of these three building blocks differ from industry to industry, and the specific issues that are faced by industry players. These are synthesized from a mixture of quantitative analysis of High Performers versus their peers, and detailed discussions with pertinent industry players. The outcome of this is an industry specific High Performance Business framework that can be used as a basis for developing an agenda for action.

¹The time horizons typically used to calculate the five criteria for high performance are as follows:

Profitability: a three-year or seven-year average spread; **Growth:** a three-year or seven-year revenue growth CAGR; **Positioning for the future:** seven-year change and levels in relative future value; **Longevity:** three- to ten-year return to shareholder CAGR; **Consistency:** seven-year median outperformance in revenue growth, spread and future value. However, in the case of the Indian auto-component industry, this had to be fine-tuned keeping data availability considerations in mind

Chapter 2: Decoupled no more: A double whammy for India

The Indian economy managed to hold steady despite the economic head winds of the VUCA environment during the immediate aftermath of the global economic crisis. This stability was due to strong domestic demand and positive government response. But starting in the third quarter of FY2011, India could no longer remain decoupled from the worldwide economy.

VUCA forces began buffeting the nation's economy that year. Industry and government leaders initially dismissed the situation as short term but soon realized the seriousness of what was happening. Exports dropped; industries and new investments slowed. Even the rupee came under pressure, as inflation worsened and high interest rates persisted. Meanwhile, uncertainty surrounding national growth eroded consumer confidence.

Indian industry staggered under a "double whammy": simultaneous subdued growth in both domestic and export markets. This phenomenon continues to jeopardize growth for Indian businesses even today.

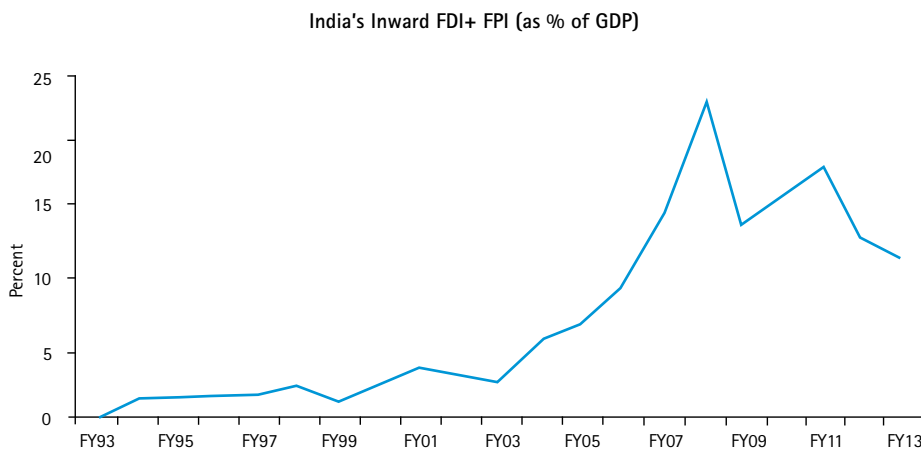
In this chapter, we explore the double whammy's impact on India in greater detail.

forces. To be sure, India did well initially after the worldwide downturn struck. Despite extensive damage to economies around the globe, the nation continued to enjoy a high growth trajectory during 2009–2010 and 2010–2011, largely thanks to strong domestic demand and Government policy. (See Figure 9.)

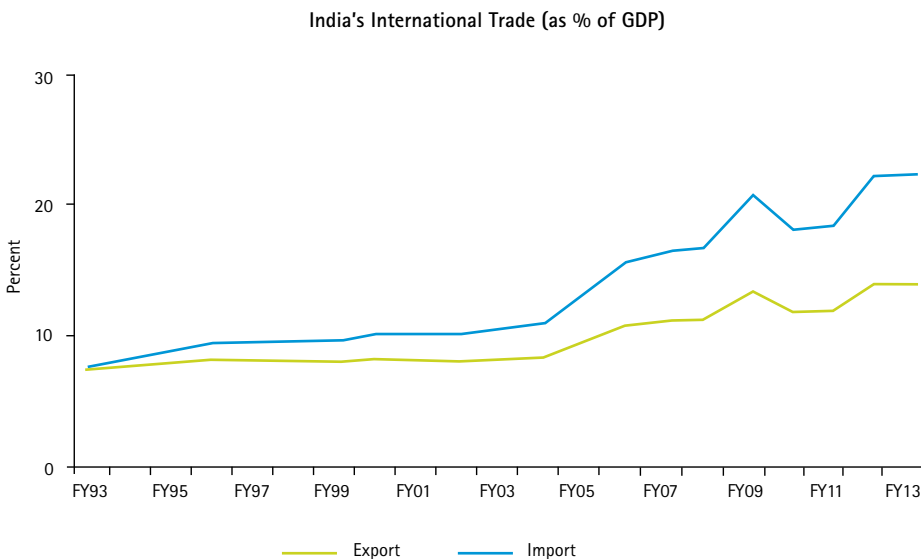
Impact on short-term growth prospects

Since 1992, India has steadily become integrated into the world economy. India's trade-to-GDP and foreign-investment-to-GDP ratios have only gradually increased during that time. (See Figure 8.) Thus many observers expected that the nation would remain relatively unscathed by the impact of a sustained global economic crisis and VUCA

Figure 8: India has gradually integrated with the global economy through foreign investment and trade

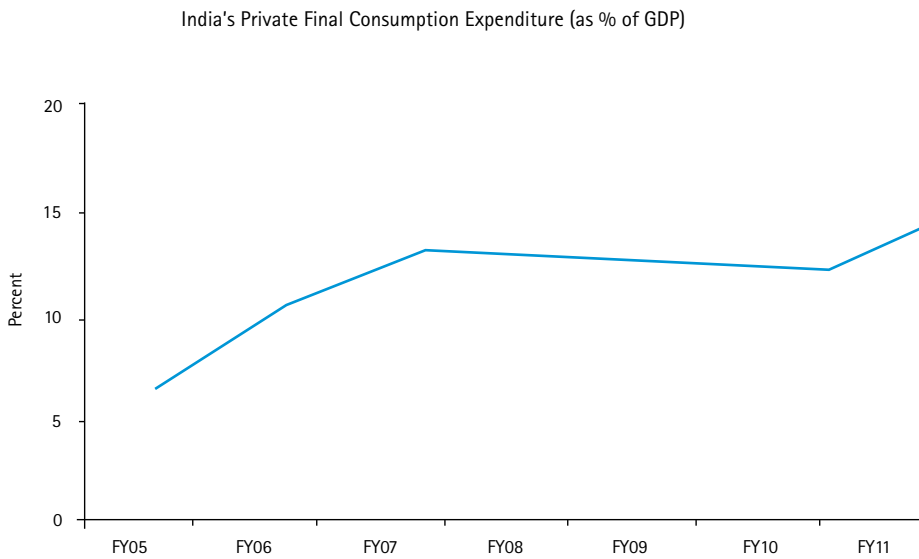


Source: Centre for Monitoring Indian Economy (CMIE) data and Accenture analysis.



Source: Centre for Monitoring Indian Economy (CMIE) data and Accenture analysis.

Figure 9: Government measures kept consumption in India high



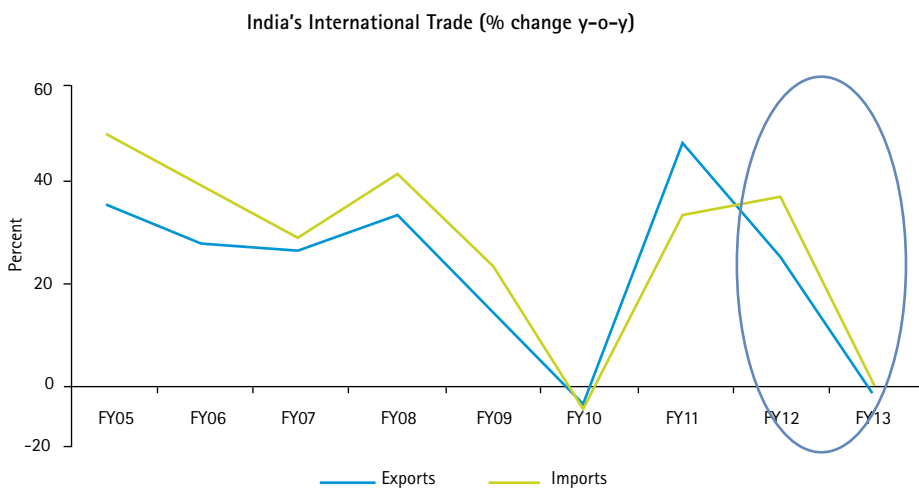
Source: Economic Survey 2008-09, CMIE and Accenture analysis

Government Measures (2008-09)

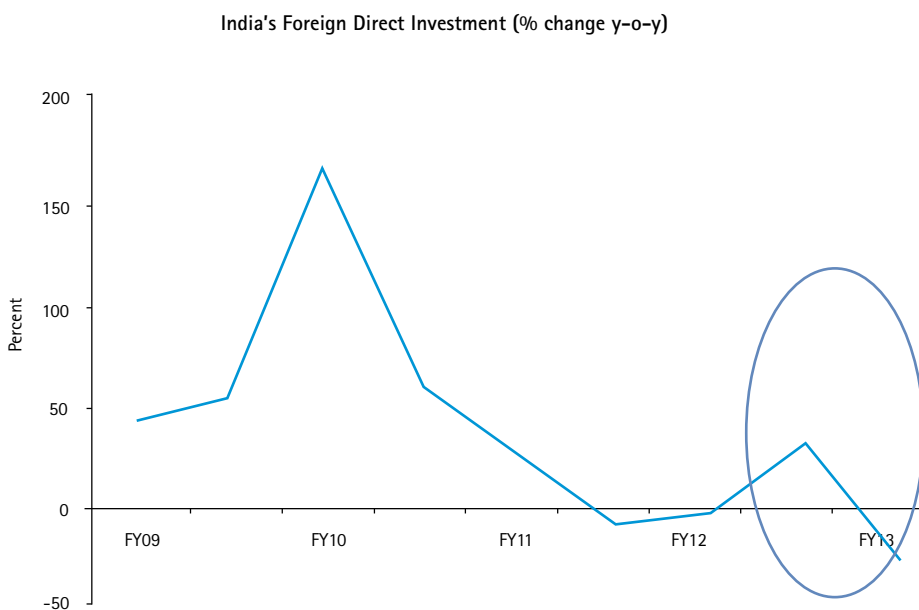
- Overall fiscal stimulates of nearly 3.5% of GDP
- There was an increase of nearly 2.5% of GDP on non-plan expenditure that included increased spending on fertilizers and food subsidies, agriculture debt waiver, defence, salaries and pensions
- Between August 2008 and March 2009, RBI's successive policy announcements reduced reverse-repo and repo rates from 6 to 3.5% and 9 to 5%, respectively; CCR reduced from 9 to 5%. This helped in improving liquidity in the system
- Government recapitalized public sector banks over two years to maintain Capital to Risk (Weighted) Assets Ratio (CRAR) of 12%

Source: Economic Survey 2008-09, CMIE and Accenture analysis

Figure 10: Growth in India's international trade and FDI has declined, and the rupee has come under pressure



Source: CMIE and Accenture analysis



Sources: CMIE and Accenture analysis.

However, it's now clear that the assumptions that India would remain decoupled were misguided. As FY2011 gave way to FY2012, a confluence of forces negatively impacted consumer confidence in India. Consumers slammed their wallets shut. And investment weakened in the face of domestic-policy uncertainty, threats of renewed global industrial slowdowns, and the specter of global and domestic inflation driven by rising crude prices and supply-side constraints.

The nation's already volatile economic situation hit its flash point when exports started to dwindle, foreign direct investment (FDI) dropped, and the rupee came under pressure from the steady buildup of the current account deficit and stubborn inflation at home. (See Figure 10.)

The nation's domestic-demand engine, which had made the Indian economy so resilient, started sputtering, and investment slowed. (See Figure 11.) Unfortunately, because of the prevailing high rate of inflation, India's central banking institution was unable to provide momentum through reductions in interest rates.

Unnerved by the prospects of fragile global growth and a moderate domestic-growth outlook, investors grew cautious. This, in turn, caused delays in the completion of key infrastructure and capital projects in India. As a result, the nation, by early FY2013, became highly vulnerable to supply-side constraints. (See Figure 12.)

Fiscal constraints

Unlike in 2008-2009, the Indian government is now finding it difficult to roll out immediate support to domestic industry. Owing to a burgeoning current account deficit and fiscal deficit, the government simply lacks the financial band width to extend support. (See Figure 13.)

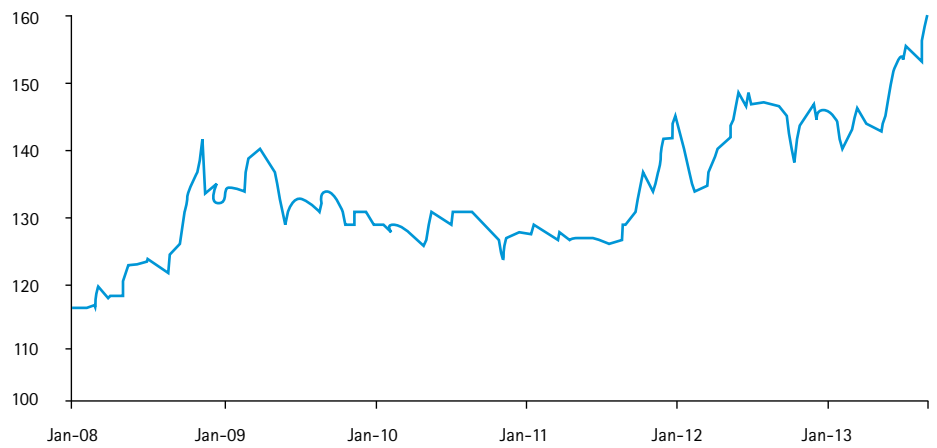
Complex trade agreements

India has become one of the most enthusiastic negotiators of preferential and free-trade agreements (FTAs) when compared to its industrialized Asian neighbors. (See Figure 14.) According to experts, the Indian government is seeking to enhance the country's economic influence in the region by gradually raising the bar of its trade engagements. In particular, the government wants India to be part of ambitious trade agreements such as Regional Comprehensive Economic Partnership (RCEP). The RCEP will comprise 10 ASEAN member states (Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei Darussalam, Vietnam, Lao PDR, Myanmar and Cambodia) and ASEAN's six FTA partners (Australia, China, India, Japan, South Korea and New Zealand).

Multiplicity of bilateral and regional trade engagements is creating an ambiguous situation for India's domestic industry. The expanding list of nations being included in the preferential trade footprint of India is making it difficult to calculate the net benefit of a product being included in or excluded from a particular agreement.

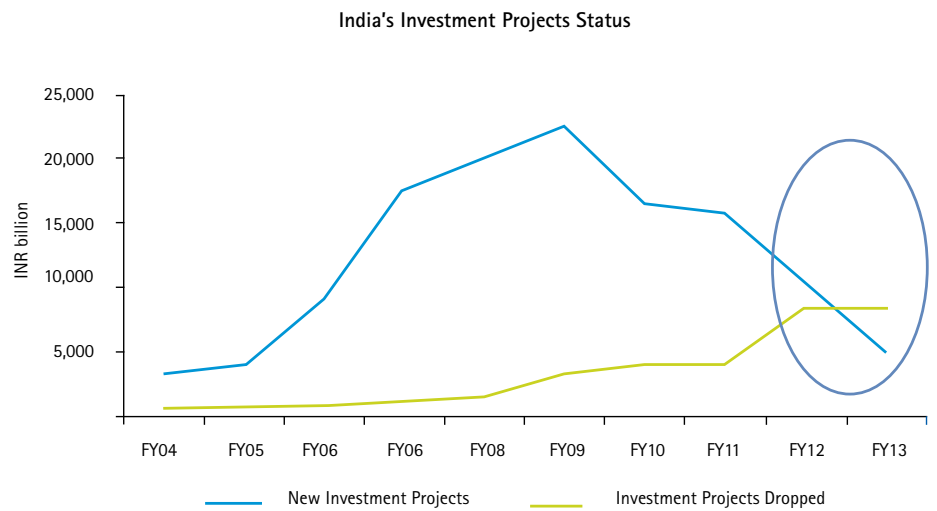
Across industries a concern which is getting consistently voiced is that the speed of domestic reforms in the area of indirect taxation is far slower than the speed at which trade engagements are being negotiated. Domestic finished-products manufacturers

USD/INR Daily Exchange Rate Index (1/1/2008 = 100)



Source: OANDA Historical Currency Exchange Rates and Accenture analysis

Figure 11: Investment in new projects in India takes a back seat



Sources: CMIE and Accenture analysis.

Figure 12: Investment in infrastructure falls short

Sector	11th Five Year Plan (2007-2012)	
	Original outlay as % of total infrastructure spend	Actual spend
Storage	1%	0.4%
Ports	4.3%	2%
Water supply	7%	5.4%
Railways	12.7%	9.8%
Roadways	15.3%	13.6%

Source: Planning Commission.

have to pay duties at the municipal and district levels (such as octroi charges, cess and entry tax/levies) during manufacturing and transportation. Under domestic tax statutes, they cannot claim credit against such duties. Hence, by the margin of these duties, manufacturers of these products are at a disadvantage against duty-free imports originating from partner nations. Moreover, the problem of inverted duty structure (wherein raw materials attract higher import duties than finished products that use these raw materials) renders domestic finished goods less competitive.

An evolving situation

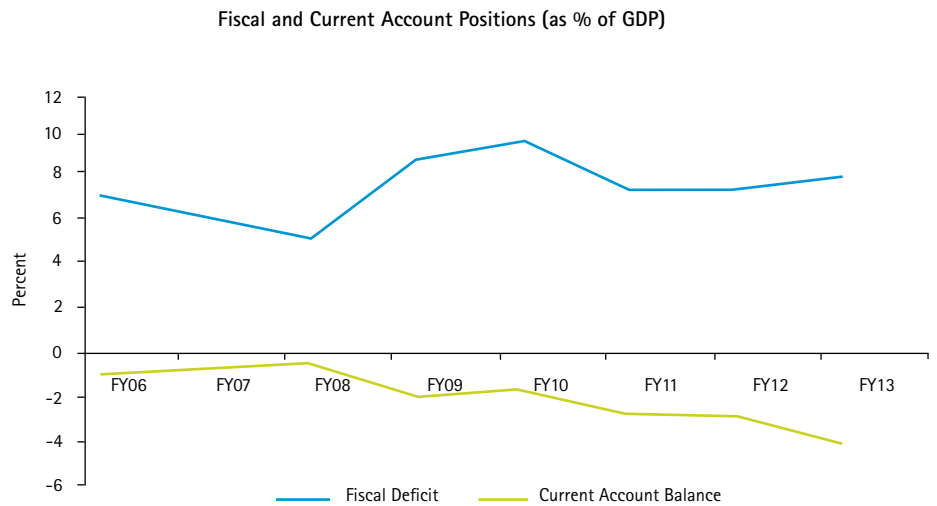
India's domestic economy has continued to grow, albeit slowly, during these tough times. Manufacturers are adjusting to new competitive realities arising from a combination of global and local factors. Business pressures resulting from increasing global integration of the Indian economy have become real for industrial players, large and small.

While they remain confident about the economy's ability to bounce back, they recognize that the business scenario is not going to be the same after the recovery and that it's time to "think outside the box."

Quick takeaways

1. Permanent volatility is a reality for India's auto-component industry.
2. Companies need to carefully assess trends driving uncertainty and volatility in the past and incorporate their insights into their planning for the future. This may require the use of scenario planning and financial "stress testing" of the business. Businesses need to build these new skills and capabilities in order to thrive.
3. Slowdown in foreign direct and indirect investment growth does not mean that investors are uninterested in India's economy or automotive industry. Rather, they are looking for value-creating areas in which to invest. Companies that keep improving their performance stand the best chance of attracting investment.
4. Executives must check whether their products are included in existing or prospective trade agreements and assess the impact of such inclusion on their existing and future business.
5. Government is facing fiscal constraints and thus does not have the financial bandwidth to hasten recovery by providing stimulus. Hence, auto-component players should be prepared to allow time for market forces to lead to corrections.

Figure 13: Deficits constrain Government support for Indian industry



Sources: Reserve Bank of India, Central Statistical Organization, Ministry of Finance and World Bank.

Figure 14: India's bilateral/plurilateral trade agreement footprint

Top emerging manufacturing nations in Asia	Bilateral/Plurilateral trade agreements	
	In effect	Under negotiation
China	10	5
Republic of Korea	6	4
Indonesia	7	4
Thailand	11	6
India	13	12

Sources: Accenture analysis and Database "FTA by Country" Asia Regional Integration Center and Asian Development Bank.

How nations use trade agreements to sustain manufacturing strength

Trade liberalization is not a means to an end. Nations such as Germany, Japan and the US, along with emerging markets such as Brazil and South Korea, have used trade arrangements (bilateral, regional and multilateral) as strategic vehicles to help their industries create new value and to differentiate themselves from competitors.

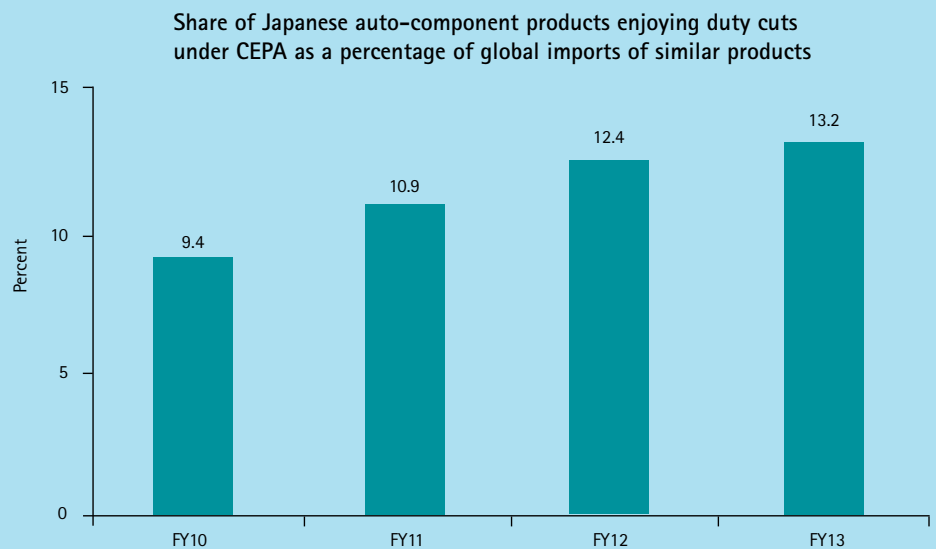
India has made assertive use of trade engagements over the last decade to enhance its global economic influence. Over the last decade, it has entered into bilateral trade engagements with three economies, home to some of the largest automobile and auto-component companies. These countries are Japan, South Korea and Thailand (through ASEAN FTA).

This analysis shows how Japan and South Korea have utilized their respective trade agreements with India to sustain their domestic manufacturing strength in key auto-components.

Japan

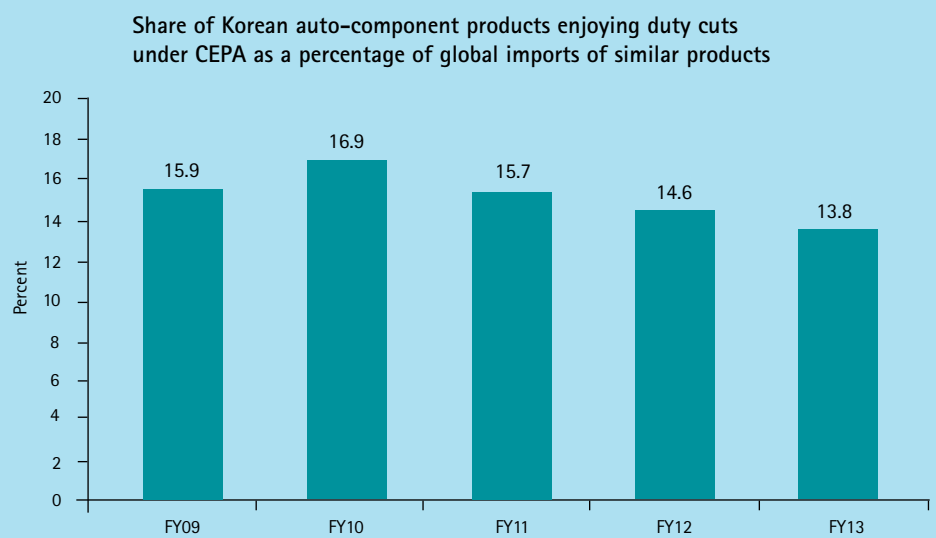
- The India–Japan Comprehensive Economic Partnership Agreement (CEPA) came into force in FY2011–2012.
- India imports 108 auto-components from Japan that are under the purview of CEPA.
- All 108 items enjoy CEPA tariff benefits in full or in part.
- The share of Japanese imports as a percent of total auto-component imports of these 108 items has grown steadily from 9 percent in 2009–2010 to 13 percent in 2012. (See Figure 15.)
- Imports from Japan of the 108 auto-components under the purview of CEPA grew 7 percent year-on-year in FY2013, while imports of other auto-components excluded from CEPA shrank 6 percent year-on-year for the same period.
- The three major (highest value of imports) auto-components imported under the FTA in FY2013 are: (1) engines of cylinder capacity exceeding 250 cc (US\$154.41 million), (2) gear boxes and parts thereof (US\$106.37 million) and (3) all other articles of iron/ steel forged or stamped but not further worked (US\$70.35 million).

Figure 15: Benefits to Japanese auto-component manufacturing



Sources: Export Import Data Bank of India, Ministry of Commerce & Industry and Accenture analysis.

Figure 16: Benefits to Korean auto-component manufacturing



Sources: Export Import Data Bank of India, Ministry of Commerce & Industry and Accenture analysis.

South Korea

- The India–South Korea Comprehensive Economic Partnership Agreement (CEPA) came into force in FY2009–2010.
- India imports 82 auto-components from South Korea that are under the purview of CEPA.
- All 82 items are already enjoying tariff benefits in full or in part.
- The share of South Korean imports as a percent of total auto-component imports of these 82 items went from 16 percent in 2008–2009 to about 14 percent in 2012–2013. (See Figure 16.)
- Imports from South Korea of the 82 auto-components under the FTA saw a 9 percent compounded annual growth rate (CAGR) between 2008 and 2012, while imports of other auto-components excluded from the FTA had an 8 percent CAGR for the same period.

- The three major (highest value of imports) auto-components imported under the FTA in FY2013 are: (1) motor vehicle parts such as reservoirs for hydraulic power steering systems and steering gear systems (US\$423.35 million), (2) engines of cylinder capacity exceeding 250 cc (US\$306.74 million) and (3) gear boxes and parts thereof (US\$98.52 million).

The data above suggests that bilateral trade arrangements with India have become a platform for Japanese and South Korean OEMs to continue importing complex and technology-intensive items such as engines from their home base. These trade engagements have helped them expand their nation's value-added export basket. From the perspective of business strategy, these companies have protected their competitive differentiation and intellectual property rights (IPR).

Section Two: Impact Of VUCA On India's auto- component industry



Chapter 3: The impact

- On Indian consumers
- On OEMs and auto-component firms
- Pressures on the auto-component sector
- Evidence of resilience

India's machine tool industry

Chapter 4: High performance in a VUCA environment: Challenges to address

- The game-changing challenge
- Expectations' divergence
- Leadership issues
- Enabling environment deficit
- The need for tenacity amid multiple challenges



Chapter 3: The impact

The Indian automotive industry has grown at about 14-15 percent in rupee terms over most of the last half a decade. However, that growth rate is now coming under pressure from VUCA forces. In this chapter, we analyze the impact of VUCA on India's automotive and auto-component industry.

On Indian consumers

Our analysis suggests that VUCA has affected Indian consumers on three key fronts. (See Figure 17.)

These are:

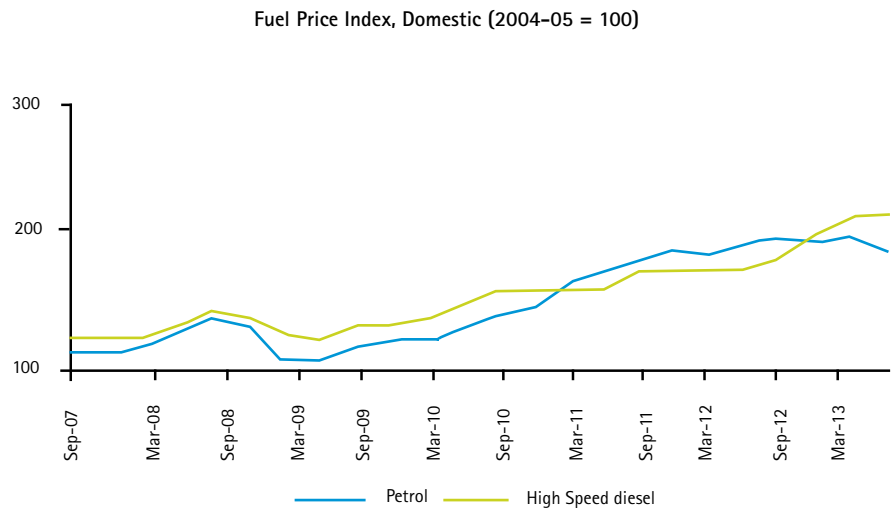
- Costlier fuel
- Increase in equated monthly installment (EMIs)
- Worsening inflation, leading to higher monthly operating costs

Compared to January 2010, these factors have raised the monthly expenditures of a typical consumer who lives in the city and drives a 100cc motorcycle by about Rs 1,000. Similarly, for a city-dweller driving a mid-sized petrol-fueled sedan, the monthly increase expense due to the car is roughly Rs 4,000.

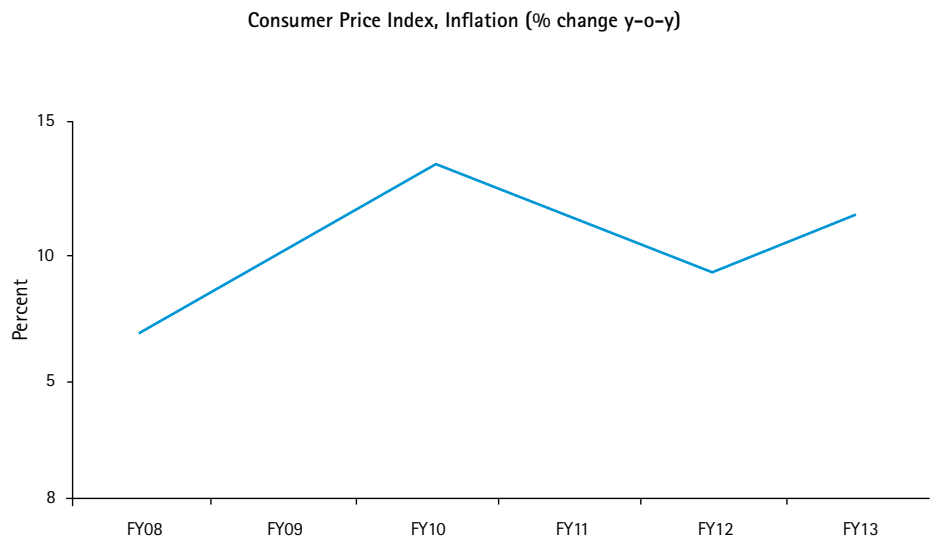
Like automobile consumers in other countries, many Indian consumers are buying used vehicles or postponing their purchases in the hope that the future will bring better economic conditions and vehicle-financing options. Data from the Center for Monitoring the Indian Economy (CMIE) confirms this. (See Figure 18.)

Government policies controlling petrol and diesel pricing have added to consumers' confusion. This is evident in the fact that while demand for petrol vehicles had been going downhill for over a year, demand for diesel models has also shown signs of strain in the last few months. This may be largely due to the phased increase in fuel prices (lengthening the "breakeven point" for diesel vehicles) and an additional tax of 3 percent levied on fuel-inefficient sports utility vehicles. Such policy actions cause consumers to postpone their automobile purchases until they can be assured of more directional clarity.

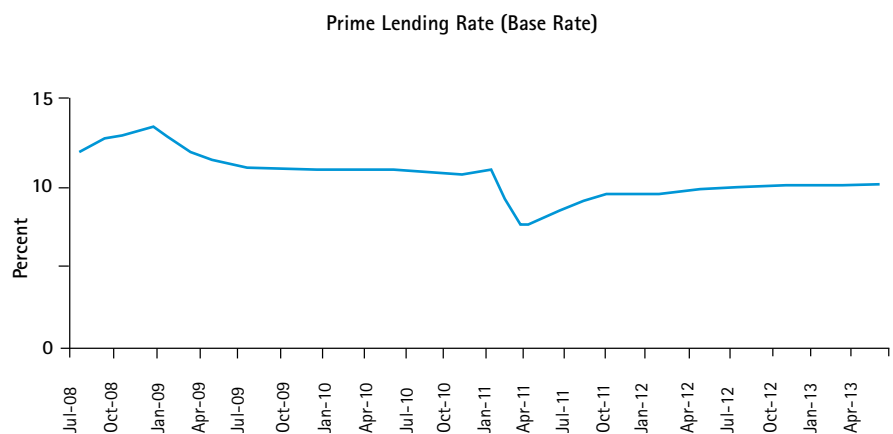
Figure 17: Rising fuel prices stoke inflation, keeping lending rates high



Source: Ministry of Petroleum and Natural Gas and Accenture analysis



Source: Centre for Monitoring Indian Economy (CMIE)



Source: Centre for Monitoring Indian Economy (CMIE)



On OEMs and auto-component firms

India's automobile industry recovered quickly from the immediate impact of the global economic crisis of 2007-2008, posting double-digit growth during 2009-2010 and 2010-2011. Reduction in excise duties on automobiles and robust domestic demand saved the day for the industry, which responded with enthusiasm. During FY2010 and FY2011, automobile manufacturers launched a number of new models aimed at the emerging middle class in India—and recorded robust sales. (See Figure 19A and 19B.)

Unfortunately, the threat posed by domestic-policy uncertainty, the worldwide industrial slowdown and rising crude prices globally became real dangers by the end of FY2011. The impact has carried through to FY2012 and FY2013.

The relentless drop in growth of sales of passenger and commercial vehicles during FY2012-13 is compelling Indian automobile companies to implement tough measures. While some auto manufacturers have started cutting production shifts, others have initiated production-holiday programs. As an extreme step, some are also downsizing their contractual labor force.

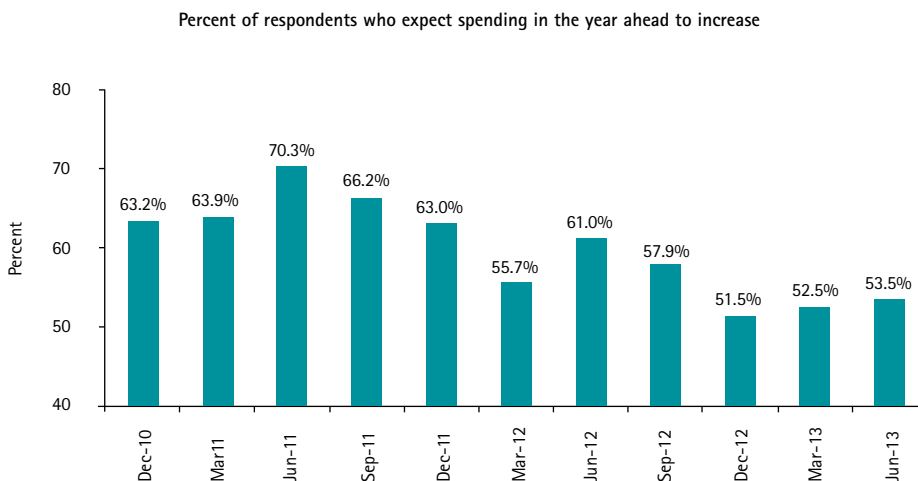
Other companies are putting capacity-expansion plans on hold. Hence investments in land, buildings, plants and machinery have stalled. (See Figure 20.) More and more investment projects are being dropped in the transportation-equipment sector.

Pressure on the auto-components sector

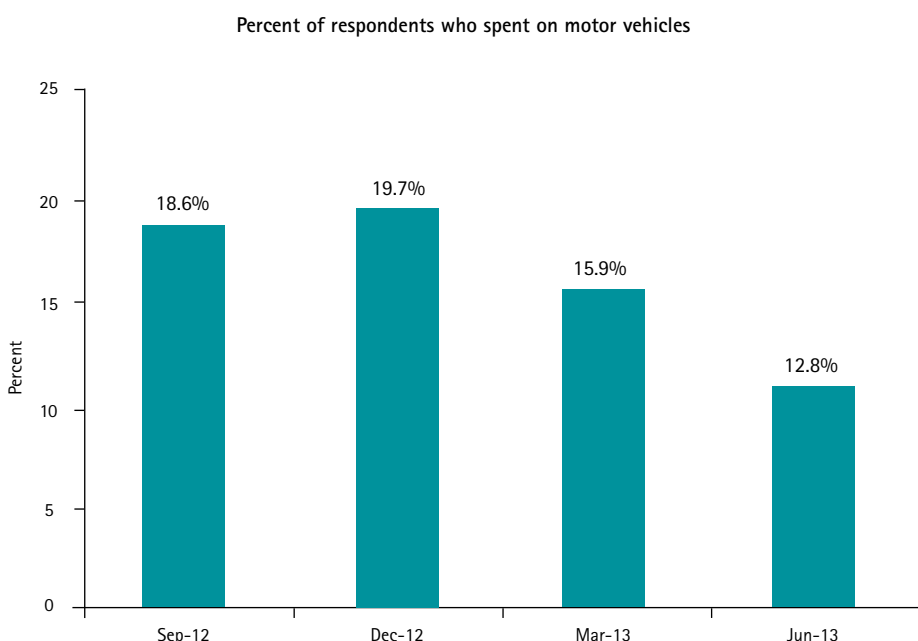
The VUCA environment is exerting extreme pressure on India's auto-component industry, directly as well as through trickle-down effects from the overall automotive industry. Analysis of CMIE data covering a sample of about 150 auto-component companies across tiers reveals the severe operational and financial stress the industry is experiencing in these forms:

- Slowing sales growth
- Pressure on margins and returns
- Cash squeeze

Figure 18: Consumer confidence in India remains low

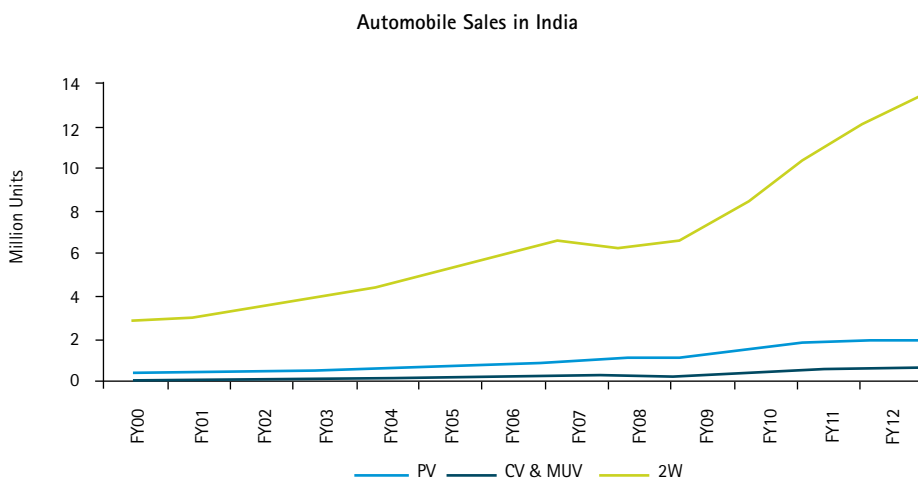


Source: Centre for Monitoring the Indian Economy (CMIE).



Source: Centre for Monitoring the Indian Economy (CMIE).

Figure 19 A: Automobile sales in India



Sources: Society of Indian Automobile Manufacturers (SIAM) data and Accenture analysis.

Slowing sales growth

Growth in India's auto-component industry sales has slowed significantly after FY2011. (See Figure 21.) For an industry that has witnessed double-digit sales growth over much of the last decade, a sustained slowdown of this nature is posing a major challenge. Companies are struggling to generate cash to manage their operations and expand their market presence. Even suppliers' ability to plan has been affected, leading to layoffs. This is particularly discouraging for tier-2 and -3 suppliers, given that they lack the operational bandwidth required to withstand such adversity for long.

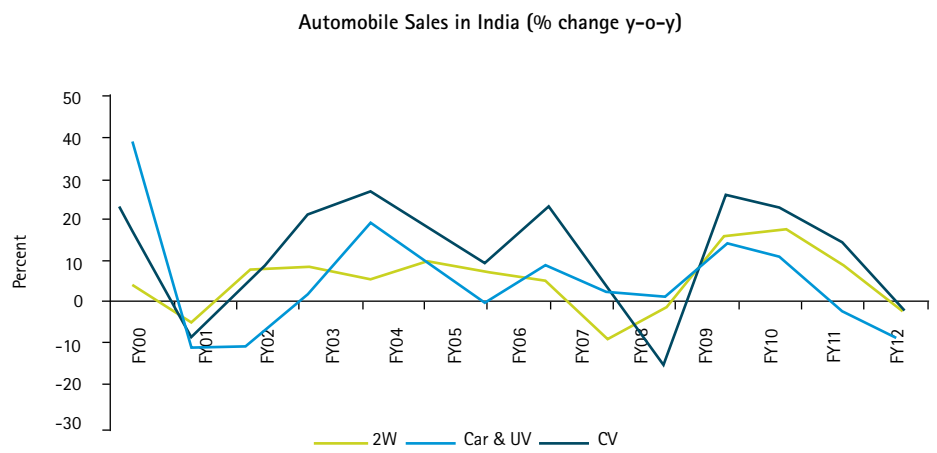
For India's overall auto-component industry, sales have grown. But our discussions with auto-component players revealed that most tier-2 and tier-3 companies have experienced a volume decrease. This is often true of small- and medium-size firms, which typically are not diversified and lack a significant export market. Most of these firms have reported sales decreases of as much as 40-50 percent from last year. The larger tier-1 firms seem to be doing well thanks to well diversified portfolios.

Pressure on margins

The VUCA environment triggered spikes in prices for raw materials as well as power and fuel. Indian auto-component companies have reduced selling, general and administrative (SG&A) expenses in an attempt to minimize the resulting hits to their profit margins. But these efforts have not stemmed the downward trend in profit before tax (PBT) margins and the plateauing of return on capital employed (ROCE). (See Figure 22.)

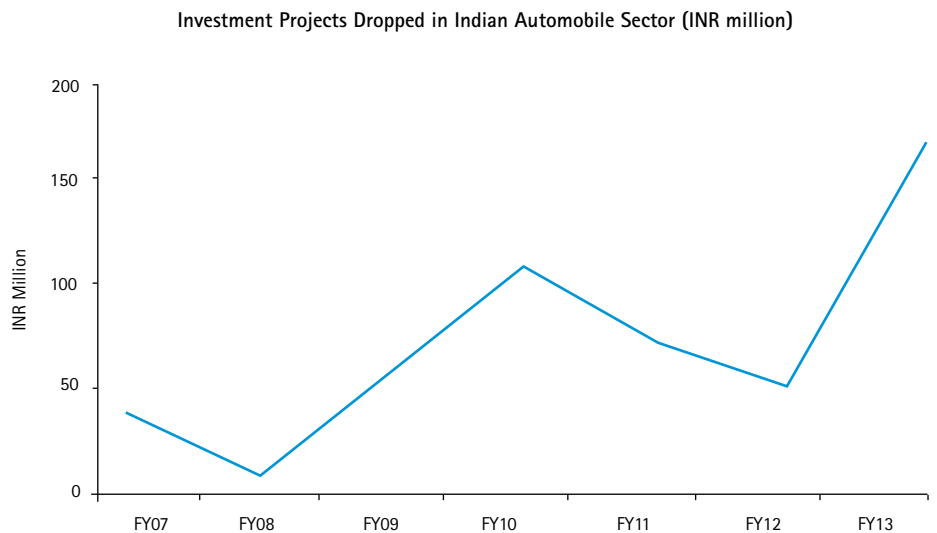
In discussions with auto-component players – especially small-and medium-size firms – the impact of this became clearly evident. Most such firms expect to report negative profits for the first half of the financial year. Also, investments already made or committed ensure that ROCE levels have decreased for almost all firms.

Figure 19 B: Automobile sales growth in India

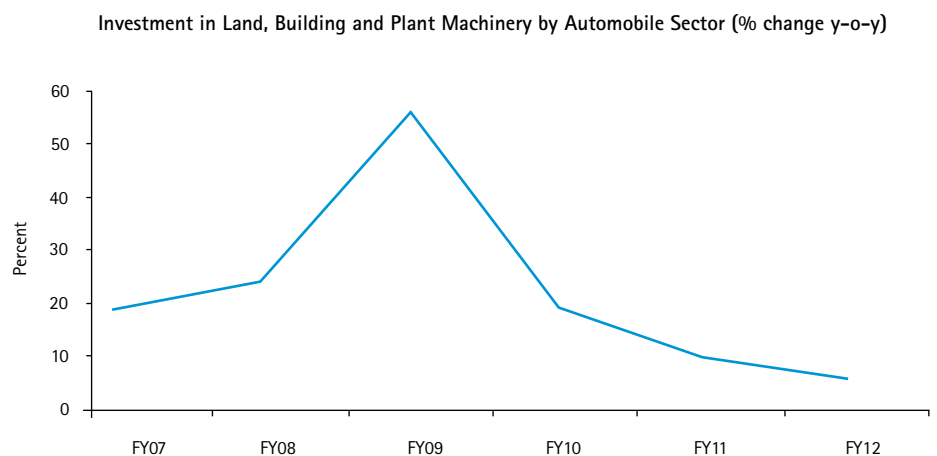


Sources: Society of Indian Automobile Manufacturers (SIAM) data and Accenture analysis.

Figure 20: Investments in the Indian automotive sector are slowing



Sources: CMIE and Accenture analysis.



Sources: CMIE and Accenture analysis.

Cash squeeze

Over the past two years, automobile manufacturers have strived to make their operations leaner by steadily moving their sub-assembly work to auto-component manufacturers. This labor-intensive work involves “high-cost and immediate-pay” to retain employees in short supply. Unfortunately, mismatches in compensation expectations between OEMs and suppliers, have led to profitability and working-capital challenges for auto-component players. Generating adequate working capital has therefore become extremely difficult for these manufacturers, especially those in the tier-2 and tier-3 categories. (See Figure23.)

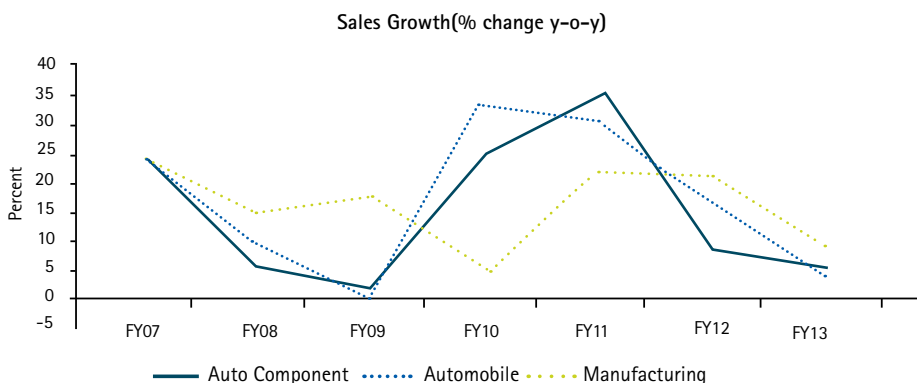
In addition to a cash squeeze, auto-component players also have cash locked in capital projects. (See Figure24.) These are investments made to expand existing capacities with an eye toward supporting OEM growth plans in the future. This places an additional burden on cash availability for auto-parts firms, even as demand has shrunk and volume projections have become unreliable.

Evidence of resilience

Despite these pressures, auto-component players are showing signs of resilience. Many firms are launching change initiatives centered on improving profitability, reducing fixed costs and enhancing workforce productivity. In the words of a tier-2 manufacturer, “If we survive this environment, we can surely survive any pressure in the future.”

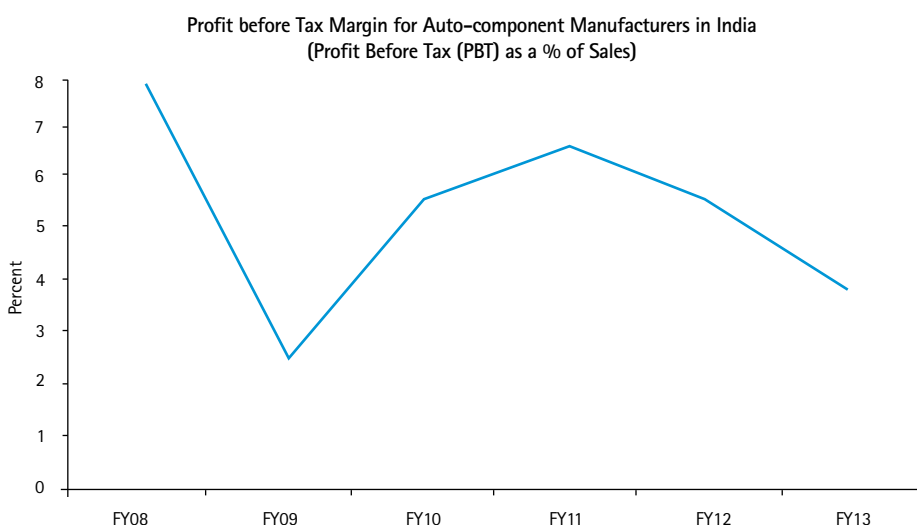
There is a growing recognition that “dieting is good for (financial) health,” and this change in attitude is gradually being reflected in measures companies are taking to be more productive, robust and resilient.

Figure 21: Indian auto-component sales growth is slowing



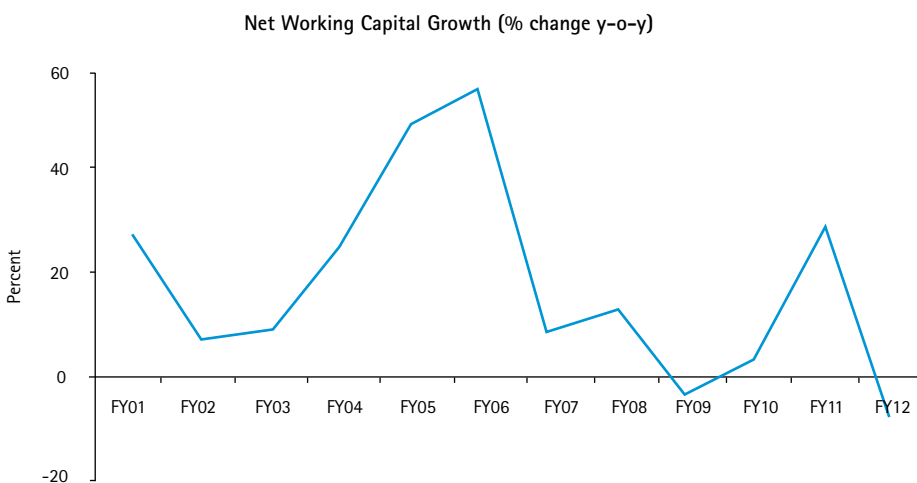
Sources: ACMA and CMIE.

Figure 22: Indian component suppliers' PBT margins are under pressure



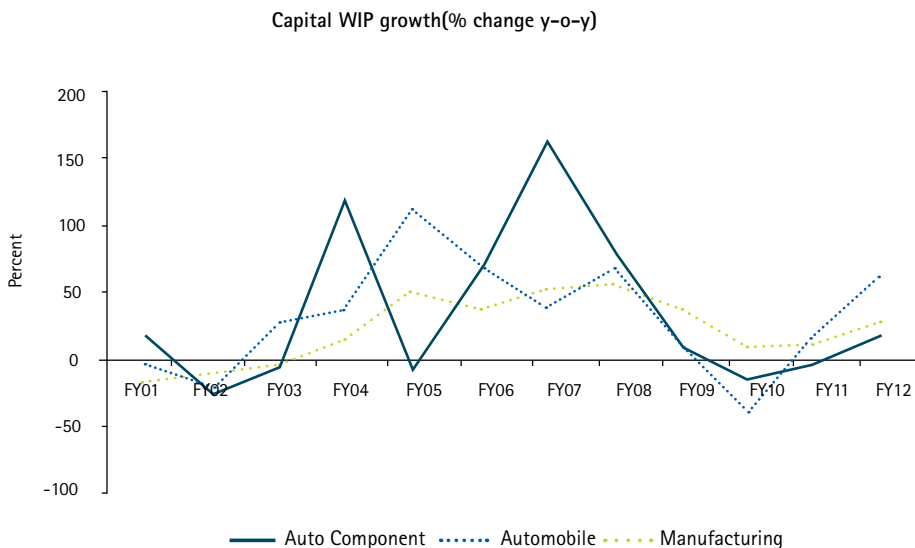
Source: ACMA.

Figure 23: Indian component suppliers' working capital is contracting



Sources: CMIE and Accenture calculations (Data only available till FY12).

Figure 24: Component makers' capital work in progress is growing



Sources: CMIE and Accenture calculations (Data only available till FY12).

Quick takeaways

1. Firms may have to recalibrate their expectations regarding operating margins, PAT and ROCE. This is bound to change in the era of permanent volatility.
2. To succeed in the age of VUCA, companies must find new ways of managing costs more effectively and being flexible. Reducing breakeven is critical for introducing flexibility.
3. Cash is king in the new normal. While this has always been the case, companies can no longer afford not to focus on cash flows. Firms need to realign their finance teams to think about and report cash flows as regularly as they report P&L statements.
4. Companies that were expanding when the slowdown started have cash stuck in unproductive areas. Such firms need to find ways to monetize their investments.
5. There is evidence of resilience among many players who view the current environment as a "wake-up call" and are using this as an opportunity to "set their houses in order."

India's machine tool industry*

To ensure adequate supply of quality auto-components, India's overall automotive industry needs a healthy domestic machine tool industry. India is the 13th largest producer and 6th largest consumer of machine tools in the world today. Machine tools produced in India today include general- and special-purpose machines; standard computer numerical control (CNC) machines; gear-cutting and grinding machines; medium-size machines; electrical discharge machining (EDMs); presses and press brakes; and machines for pipe bending, rolling, bending, measuring, metrology and gauging.

India's automobile and auto-component companies collectively make up about 60 percent of the machine tool industry's customer base.² The component industry, in particular, depends on the machine tool industry for its machine technologies. Therefore, technology demands and changes in the automobile and auto-component industries powerfully drive India's machine tool industry. Slowdown in the automobile and auto-component industries have hurt sales for the machine tools industry, which witnessed a decline in year-on-year sales growth; a decrease of 5.25 percent in FY2013 alone.

However, there are some interesting trends in the machine tool industry:

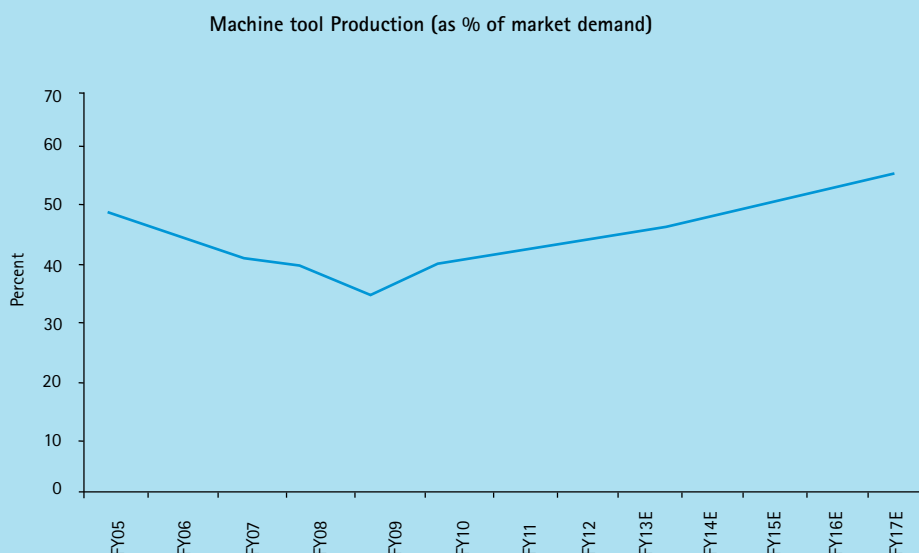
Production is not meeting market potential

The Indian machine tool industry was worth Rs 3,624 crore in production output in FY2011 against demand that amounted to Rs 10,236 crore during the same period. Production by the machine tool industry is about 35 percent of market demand and is not expected to reach full potential even in the next five years. (See Figure 25.)

Machine tooling is a net importing industry

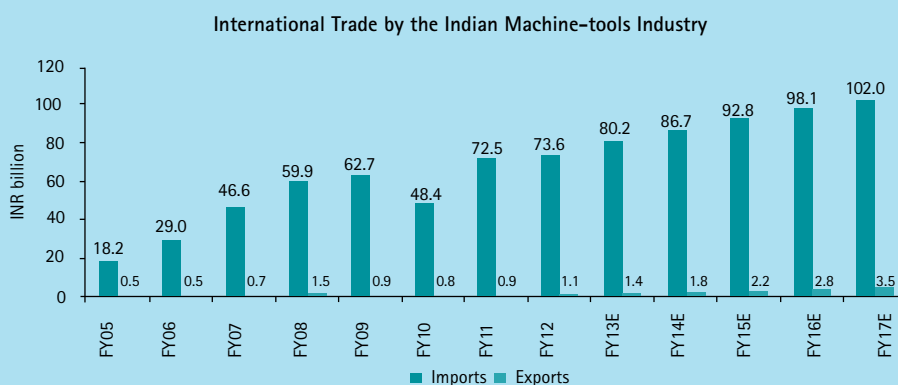
Currently available technology in India enables manufacturing of lower-end and medium-end standard machine tools that support vehicles that have up to three axles. The technology does not support multi-spindle, high-precision tooling for vehicles with five or more axles, heavy-duty machine tools and metal-forming machines of modern design. As a result, India's machine tool industry relies heavily on imports of technology such as software used for design, analysis and simulation and development of new materials for machine tool production.

Figure 25: Machine tool production is not meeting market demand



Source: Recommendations for 12th Five Year Plan for Capital Goods & Engineering Sector, October 2011

Figure 26: A gap is widening between imports and exports in India's machine tool industry (Rs crore)



Source: Recommendations for 12th Five Year Plan for Capital Goods & Engineering Sector, October 2011

Moreover, India has recently signed a number of trade agreements with foreign countries that aim to gradually reduce to zero the import duty on machine tools imported from these countries. This places domestic producers at a disadvantage owing to high input costs, high interest rates and a 7.5 percent custom duty on imported parts. In addition, export efforts are constrained by the high cost of maintaining a presence in foreign markets through showrooms; technology centers; and the stationing of technical personnel for marketing, sales and service. This has opened up a substantial gap between imports and exports in India's machine tool industry. (See Figure 26)

The machine-tool and auto-component industries have an opportunity

A healthy and well-developed machine tool industry is an important enabler for the manufacturing sector in general and for the automobile and auto-component industries specifically. Most high-technology automobiles require precision parts that need high-quality machine tool building skills. Availability of such expertise within or near an auto cluster can facilitate innovation in manufacturing technology.

Industry experts believe that auto-component suppliers and machine tool firms can pool their resources for R&D. By leveraging each other's strengths and networks, they can grow together.

*Source: Recommendations for 12th Five Year Plan for Capital Goods & Engineering Sector, October 2011.

Chapter 4: High performance in a VUCA environment: Challenges to address

Clearly, the VUCA environment has exerted a major impact on profitability of India's auto-component industry.

The game-changing challenge

Most notably, during the last five years, inflation has twice exceeded sales growth of India's auto-component industry. This is unprecedented for an industry used to sales growth numbers much higher than inflation rates. (See Figure 27.)

As noted by a senior executive of a tier-1 auto-component manufacturer: "High inflation with lower sales growth is going to be a game changer."

That is true. At first glance, the effects of inflation on a company's ability to create value might seem negligible. As long as companies can pass increased costs on to the customer, they can keep inflation from eroding business value. But this is not possible in the current business environment. As gathered from interviews with a number of auto-component manufacturers, attempts to pass on higher costs are getting push-back from OEMs. Moreover, to fully pass on inflation to customers without losing sales volume, companies need to grow their cash flows at the rate of inflation. But that, too, is currently difficult for the auto-component industry.

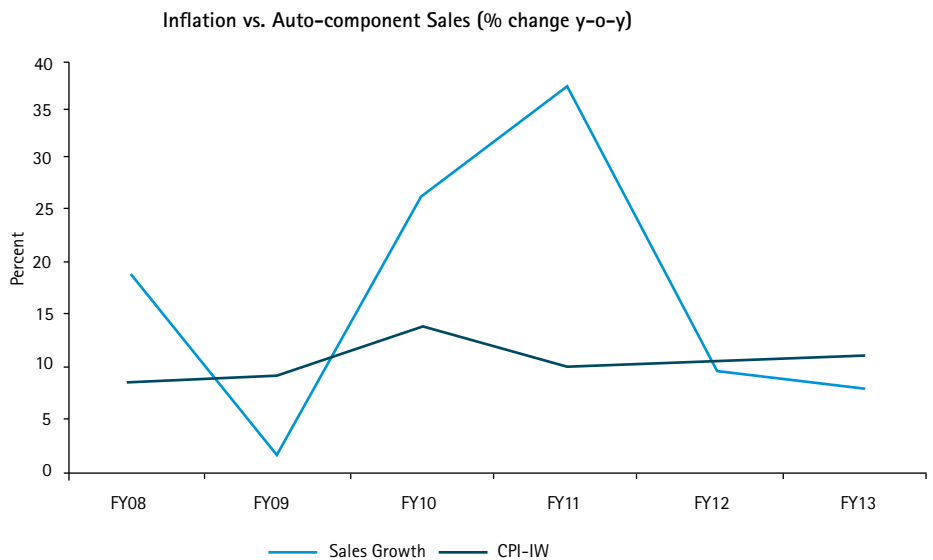
Also, with the annual growth rate of inflation exceeding long-term average levels, credit is becoming costlier in real terms. And companies are therefore suffering losses on net asset positions generally arrived at in nominal terms.

A structured exercise was undertaken to understand challenges presented by such a game-changing environment for the various tiers of the auto-component industry. In-depth interactions with senior leaders from the auto-component industry, the auto OEM industry, the financial and investment community, the Indian Government and industry experts were conducted.

These discussions revealed interesting findings.

First, the game-changing environment is redefining expectations across OEMs and auto-component manufacturers in ways that both understand, but find difficult to deliver on. Second, auto-component makers identified leadership deficit as another challenge. Third, there is an absence of Governmental support for companies' growth initiatives in the VUCA environment.

Figure 27: An environment of low sales growth paired with high inflation



Sources: ACMA and Reserve Bank of India database

Expectations' divergence

Discussions revealed that in a VUCA environment, expectations of OEMs and auto-component manufacturers have undergone a structural shift. "The age of linear growth is over, and so is the age of linear expectations," said one executive from a tier-1 auto-component manufacturer. (See Figure 28.)

Saddled with consistently low sales growth, OEMs want auto-component manufacturers to make deep price cuts over and above what they have contractually agreed. The auto-component manufacturers are ready to share the pain, but they want the burden to be shared in a collaborative and equitable manner. Some large auto-component manufacturers interviewed welcome the change in mindset taking place at the OEMs' top leadership levels on this issue. However, they are concerned that "this view is not trickling down into the negotiating mindset of the OEM procurement manager, who continues to push the language of price cuts during discussions of orders."

OEMs wish that auto-component manufacturers would become more flexible and adapt quickly to the new reality of "hyper demand fluctuations" as well as learn the science of making profit even on small batches. As a senior leader at one OEM observed, "Demand fluctuation is so high that we have resorted to daily incremental manufacturing resource planning (MRP) runs at our factories. In such a situation, it is becoming increasingly difficult for us to provide exact numbers to the suppliers." While suppliers are willing to become more flexible, they want OEMs to provide them with more accurate demand estimates, and then stand by those estimates. Component manufacturers also want OEMs to share losses in case inventories pile up as a result of inaccurate demand estimates provided by them.

As OEMs engage with their own end customers more deeply, they want their suppliers to start taking on more of the burden in the sphere of design and technology development. While a number of component manufacturers are ready to embrace this new reality, they want OEMs to provide them with relevant and commensurate financial and human resource support. "High cost of capital is a primary hurdle restricting us from investing in technology as much as we need to. While our counterparts in Germany can secure loans to invest in technology at 4-5 percent, we can only do it at around 11 percent in this nation," said a CEO of one of the largest tier-1 auto-component manufacturers.

OEMs also want tier-1 suppliers to invest in building more skilled talent pools and to attract as well as retain more engineering and design talent. The logic is that talent acquired and retained now will help companies be more productive and deliver better quality products when growth revives. Tier-1 auto-component manufacturers are very open to this idea, and many are already taking steps in this direction. Nevertheless, they want OEMs to provide them with consistent support by conducting joint training programs. For many large auto-component manufacturers, the biggest challenge in the area of human resource centers on helping their mid-level managers develop a "VUCA mindset." "We would appreciate our OEM partners sharing their best practices in this area with us," explained a senior executive from a tier-1 auto manufacturer.

Last, OEMs are eager for the components industry to enhance the quality of their processes and products during this "lean time." Once again, while many auto-component manufacturers have already invested in such improvements, they are looking for more active support from their OEM customers to shape quality-enhancement initiatives that will be implemented at the tier-2 and tier-3 levels.

Leadership issues

Discussions with industry experts and observers suggest that leadership teams, especially in tier-2 and tier-3 auto-component suppliers, are focused on developing solutions for surviving "the next month." Many do not even recognize that VUCA is the new normal—that we have

entered an age of permanent volatility. Unfortunately, only a few tier-1 auto-component companies are reaching out to their tier-2 and tier-3 suppliers to explain the new reality and thereby preparing them to adjust operations accordingly.

Also, there is a gap between the "quality of leadership" as one descends the leadership ranks. "Erosion of managerial capability" from one level to the next is especially pronounced in small- to medium-size family-run firms.

One possible reason is that most small- and medium-size auto-component firms have long had an industrialized "manufacture to drawing" mindset. Owing to this mindset, they have not seen merit in building management capability at lower levels of the organization. Such companies typically have at their helm a single "entrepreneur-leader" who has not found the time required to develop leadership in the rest of the organization.

These challenges pose fundamental questions about the industry's ability to create value in the medium to long term. However, there are glimmers of hope. In a few companies, the "second-generation promoter" is capable, educated, has had exposure to overseas best practices, is interested in the auto-components' business and has a vision of taking the business to new heights. Usually, such companies have professionalized (or are in the process of doing so) and have clearly demarcated the promoter and management roles. Such companies are sought out by investors and OEMs alike and have a bright future.

Figure 28: The expectations matrix has changed

OEMs Expectations from Auto-Component Manufacturers	Auto-Component Manufacturers' Expectations from OEMs
Price Cut	Collaborative cost-down
Flexibility in operations	Accurate and timely demand estimates
Design/technology capability	Resource Sharing
Develop human resources	Mentoring support
Better quality products	Support with Tier 2 and Tier 3 development

Challenges in the context of external environment

An enabling ecosystem is critical for business growth in a VUCA environment. This was demonstrated in the aftermath of the 2007-2008 global financial crisis, when timely support from the US and the German administrations helped save those countries' automotive industries. Another example is the support that Japanese car manufacturers gave their auto-component suppliers after the 2011 tsunami and floods. The support, which took forms such as increased investment with suppliers in the most severely affected regions, helped save jobs and enabled parts suppliers to stay in business, which benefited the OEMs too.

Auto-component manufacturers in India lack such support, especially from the government.

While the Indian government has announced the National Manufacturing Policy aimed at increasing the share of manufacturing in India's GDP, auto-component suppliers believe that the policy's intent is not being backed by action on the ground. There seems to be a lack of alignment between manufacturing and trade policy, and this is intensifying the destructive impact of VUCA forces.

Meanwhile, infrastructure challenges are seen as the biggest hurdle facing the auto-component industry. Specifically, industry players see power and fuel costs as well as general costs of doing business as serious pain-points. And rightly so. Between FY2001 and FY2012, power and fuel costs increased at a compounded annual growth rate (CAGR) of 16.2 percent. Short falls in power supply and quality of power are only adding to the problem, affecting quality of components manufactured, capacity to produce and overall manufacturing efficiency. This is clearly due to an overall shortfall in power required by the industry and to a failure to effectively utilize and manage power generation and distribution. As a result, many auto-component manufacturers have to rely on independent power producers and back-up generators. Using these enables them to continue production, but at a cost that is three to five times that of grid-power cost.

Another major hurdle facing India's auto-component industry pertains to borrowing costs in the capital markets. The primary lending rate in India continues to be significantly higher than rates in the EU and US.

Many tier-2 and tier-3 component suppliers, who do not enjoy a preferential status with banks, are compelled to borrow at interest rates even higher than 11 percent.

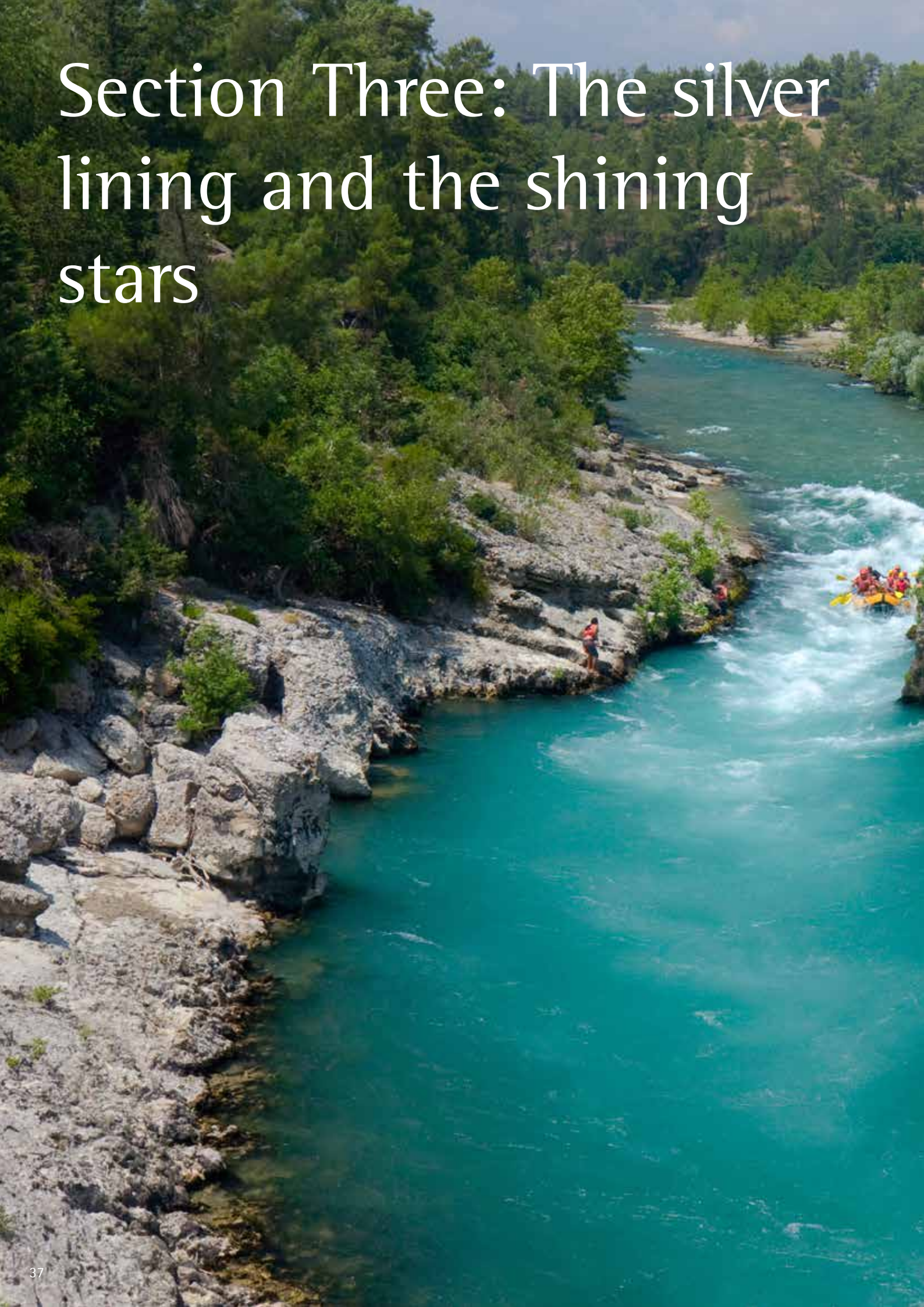
The need for tenacity amid multiple challenges

The VUCA environment is exposing players to new types of challenges for the first time. Moreover, it is not giving India's auto-component companies' time to adjust to change. In the words of a veteran tier-2 executive, "We are expected to adjust our speed as we run and jump the next hurdle." This calls for tenacity in a highly challenging environment.

Quick takeaways

1. While India's auto-component industry faces multiple challenges, quite a few of them may be perceptions. Business leaders need to explore ways to surmount these through open dialogue and commitment without letting preconceived notions color their thinking.
2. Some challenges are directly addressable by actions that are within companies' control. Examples include leadership, employee relations and management, and operational excellence.
3. Conducting a challenges audit—identifying whether the challenges external to the organization outweigh internal ones—can generate insights for successful strategies.
4. Executives can benefit by determining whether a challenge can be reframed as an opportunity to enhance performance in the VUCA environment.
5. By communicating with managers and employees about the VUCA environment and asking for their suggestions, executives can gain additional valuable insights into possible next steps.
6. By talking face-to-face with lenders, bankers and suppliers about the problems facing their industry, auto-component executives may discover that these stakeholders have solutions to offer.
7. Challenges that are not controllable need to be managed and planned for. Companies must also develop contingency plans for unforeseen challenges.

Section Three: The silver lining and the shining stars



Chapter 5: A positive long-term story

- Strong macroeconomic fundamentals
- Rising middle class
- Preparation for permanent volatility

Chapter 6: Comparing high performers and their peers

Methodology for understanding high performance in the industry



Chapter 5: A positive long-term story

Fortunately, the strong headwinds of the VUCA environment does not seem to have disturbed India's medium- to long-term growth fundamentals. Commentators remain confident of the long-term promise embodied in India's growing middle class. As more of the nation's smaller cities expand into metropolitan centers, more vehicles will be sold in these markets. In addition, analysis shows that India has a long way to go before the automotive market reaches the saturation point. In fact, many studies show that India is expected to reach a vehicle ownership ratio of 200 per 1,000 people at income levels (US\$6,300) much lower than in Brazil (US\$8,500) and China (US\$10,100).^{xiv}

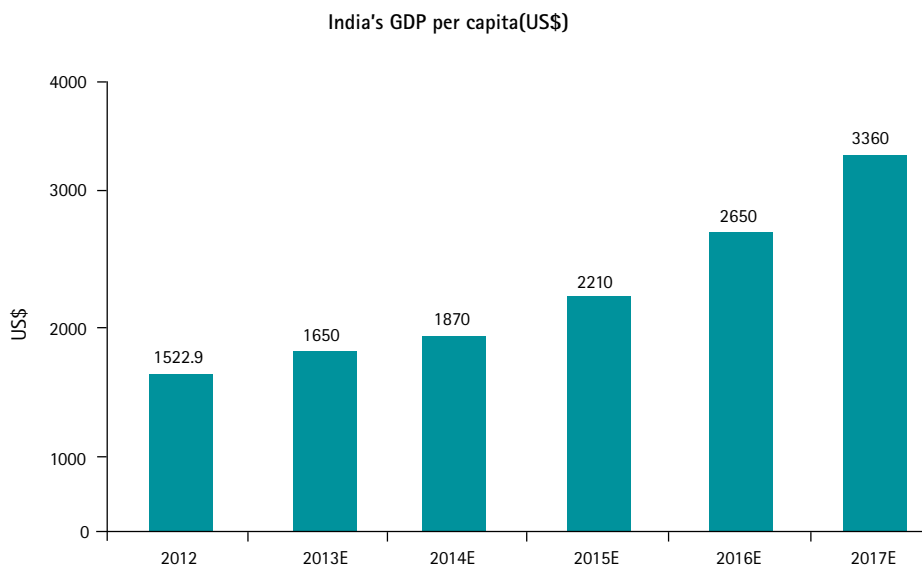
At the industry level, it is heartening to see that more auto-component manufacturers across tiers have begun viewing VUCA as the new normal—and acting accordingly.

Strong macroeconomic fundamentals

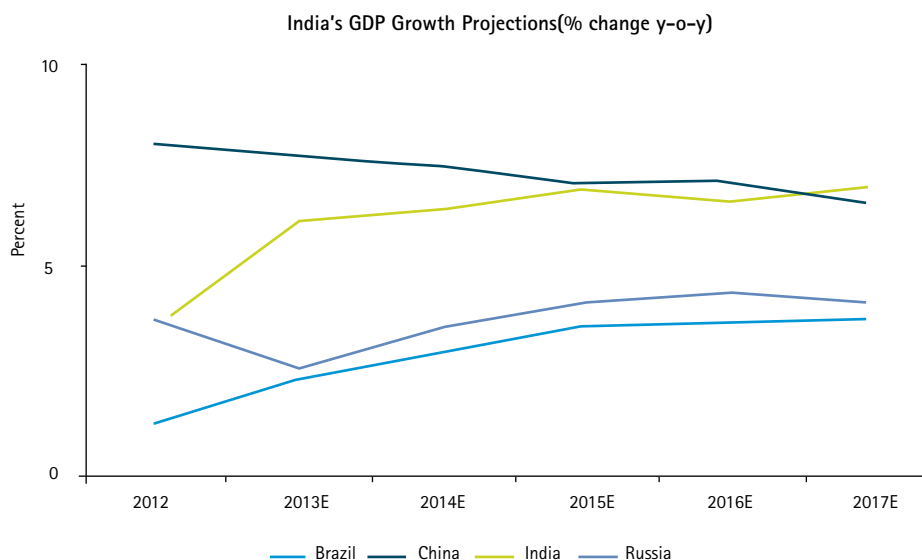
India enjoys several strong macroeconomic fundamentals. For example, long-term domestic savings and investment rates are expected to remain stable. Many respected international institutions are of the opinion that the growth in per-capita income will also likely continue, driven largely by increasing labor availability and factor productivity. And as the Indian middle class expands on the back of a young population, consumer demand will likely grow, leading to healthy per-capita GDP trends. (See Figures 29 and 30.)

There is also an enduring faith in the Indian economy's long-term fundamentals on the part of the nation's auto-component manufacturing industry.

Figure 29: Per-capita GDP in India should remain healthy in the near future



Sources: IMF World Economic Outlook 2013 and Accenture analysis.



Sources: IMF World Economic Outlook 2013 and Accenture analysis.

Figure 30: India could be the largest middle-class consumer market by 2030

Middle Class Consumption – Top 10 Countries (billions of 2005 PPP\$ and global share)

2009			2020			2030		
United States	4,377	21%	China	4,468	13%	India	4,468	13%
Japan	1,800	8%	United States	4,270	12%	China	4,270	12%
Germany	1,219	6%	India	3,733	11%	United States	3,733	11%
France	927	4%	Japan	2,203	6%	Indonesia	2,203	6%
United Kingdom	889	4%	Germany	1,361	4%	Japan	1,361	4%
Russia	870	4%	Japan	1,189	3%	Russia	1,189	3%
China	859	4%	France	1,077	3%	Germany	1,077	3%
Italy	740	3%	Indonesia	1,020	3%	Mexico	1,020	3%
Mexico	715	3%	Mexico	992	3%	Brazil	992	3%
Brazil	623	3%	United Kingdom	976	3%	France	976	3%

Source: World Bank.

Rising middle class

On the back of its rising middle class, the nation is expected to clock strong growth in vehicle sales in the near future. (See Figure 31.) In addition, India will likely enjoy one of the highest growth rates of vehicle penetration among emerging markets between 2004 and 2030.

Preparation for permanent volatility

Some companies have started factoring VUCA realities into their day-to-day business. Many auto OEMs and large tier-1 parts suppliers have accepted the VUCA environment as "part of life" now and going forward.

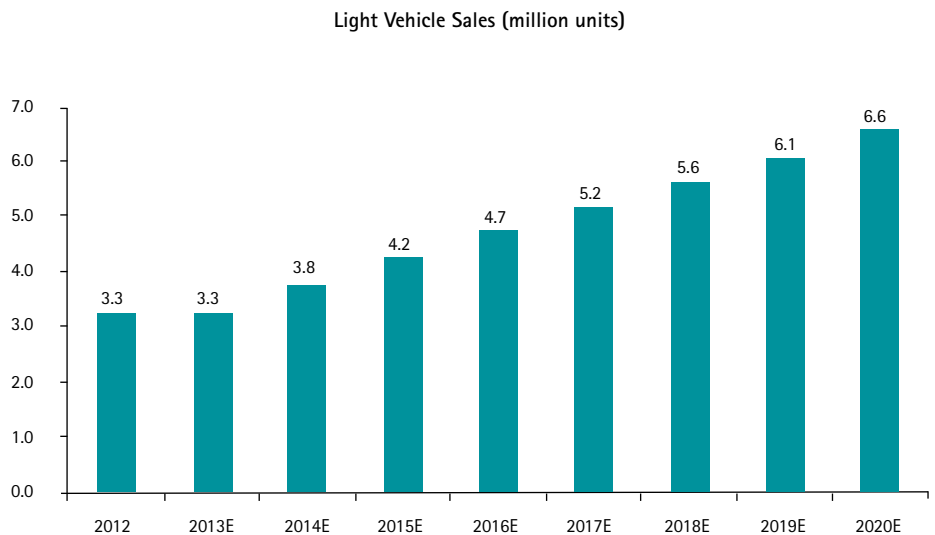
A few auto-component suppliers have started sharing OEM-forecast data among themselves and have launched new business-forecasting initiatives. Many of them have begun using relatively simple forecasting methods such as tracking historical OEM planned versus actual sales and using the resulting insights to anticipate demand slowdown. A few have recently used scenario-based projections in crafting capacity- and profitability improvement strategies. Such examples are heartening and are bound to proliferate in the industry.

Most tier-1 and some tier-2 suppliers have begun using excess managerial time to initiate planning exercises related to business issues such as their product portfolios, product profitability, standardization of equipment and rationalization of manpower. They know that such efforts may not yield immediate results. Yet they are still taking them to ensure that their organizations are prepared for the next wave of growth.

Few companies have started "stress testing" their businesses to ensure that they can weather a demand slowdown (typically a 40-50 percent decrease) for a certain time period (often one year).

In addition, a few medium-size suppliers are now thinking about operating as clusters by including the capacities of their own suppliers in their business planning. A few years ago, many suppliers intended to create their own capacity so that "all the value is captured in-house". Today, they are opting not to duplicate assets if one or more of their suppliers already has them.

Figure 31: Light-vehicle sales and motor-vehicle penetration in India



Sources: IHS Global Insight

Motor Vehicle Penetration (per 1000 people)				
Country	2004	2010	2030	Average Annual Growth Rate (2004-2030)
India	13	18	110	8.6%
Indonesia	36	60	166	6.1%
Thailand	127	157	592	6.1%
Malaysia	271	361	677	3.6%
Mexico	200	275	491	3.5%
Brazil	171	209	377	3.1%

Sources: World Bank; Vehicle Ownership and Income Growth, Worldwide: 1960-2030, Joyce Dargay, Dermot Gately and Martin Sommer, January 2007

Quick takeaways

1. Long-term prospects for the Indian auto-component industry remain attractive. This opinion is echoed by all stakeholders and industry experts.
2. Forward-thinking companies will view the current slowdown as an opportunity to start crafting strategies for positioning themselves in tomorrow's growth sectors.
3. Companies need to understand implications for their business and product offerings of long-term trends unfolding in the automobile industry in other countries and in India—particularly trends related to consumer behavior, technology and legislation.
4. The growing Indian middle class will have very different needs. Auto-component manufacturers that understand these consumers and that take the time to talk with them about their needs will be better positioned for growth with OEMs.
5. Suppliers need to build capabilities to develop their own future-demand estimates and to create differentiated products for customers' shifting needs.

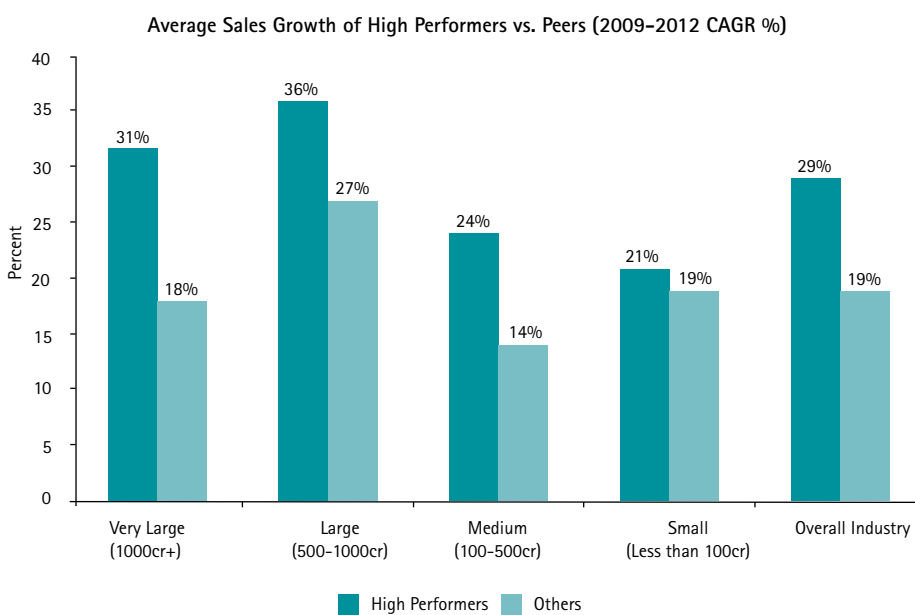
Chapter 6: Comparing high performers and their peers

In light of such a challenging situation, one is tempted to ask: Do high performers exist in India's auto-component industry? And do these high performers differ in distinctive ways from their peers? The answer to both questions is yes. This section investigates the two questions in detail.

High performers across tiers

Analysis shows that high performers do exist in the Indian auto-components industry. In fact, HPBs can be found in each size segment—small, medium, large and very large. High performers have been able to grow 1.01-1.7 times faster than their peers, regardless of company size. (See Figure 32.) The difference between high performers and their peers in terms of sales growth increases with company size. Small- and medium-size companies have had the toughest time spurring growth, with even high performers growing at a slower pace compared to those in other size segments. Very large players have been able to grow at the fastest pace, suggesting a scale advantage in tapping available opportunities.

Figure 32: High performers grow sales faster than their peers



Sources: Company accounts data and Accenture analysis.

Methodology for understanding high performance in the industry

The Indian auto-component industry consists of about 6,000 distinct firms and entities. About 750 of these are ACMA members, and 10 percent of ACMA members are listed. (See Figure 33.)

Although up-to-date revenue and exports information is available at ACMA for all its members, detailed company accounts are not. It was important to use a validated data set for the analysis. Hence, only information for listed companies was used.

Detailed company accounts were collected and tabulated for the listed companies covering the period 2001–2012. While some companies had data from 2001 onward, most did not. To preserve the sample size, a period of four years (FY09 to FY12) was chosen for which data was available for most companies. Then the data set was examined and outliers were eliminated based on discussions with senior ACMA members. This step left about 50 companies remaining in the data set, which were used for the High Performance Business analysis.

In parallel to the analysis, a set of companies were reached from each size cluster, and detailed interviews were conducted with them using a structured discussion guide. The questions were designed to seek corroborative information, take back up of the quantitative analysis and to shed light on performance drivers.

Results from the qualitative interviews and the quantitative analysis were cross-referenced to ensure consistency, and elements raising questions were looked at again in detail.

This process resulted in a clear and concise analysis done at the level of each size cluster.

Figure 33: Categories for HPB analysis

Sr. No.	Size Cluster	2012 revenue range	Number of ACMA member companies	Number of listed companies	Number of companies with whom detailed interviews were held
1	Small	Less than Rs 100 crore	516	17	14
2	Medium	Rs 100 crore to less than Rs 500 crore	154	22	15
3	Large	Rs 500 crore to less than Rs 1000 crore	47	12	10
4	Very Large	Rs 1000 crore or more	35	24	8

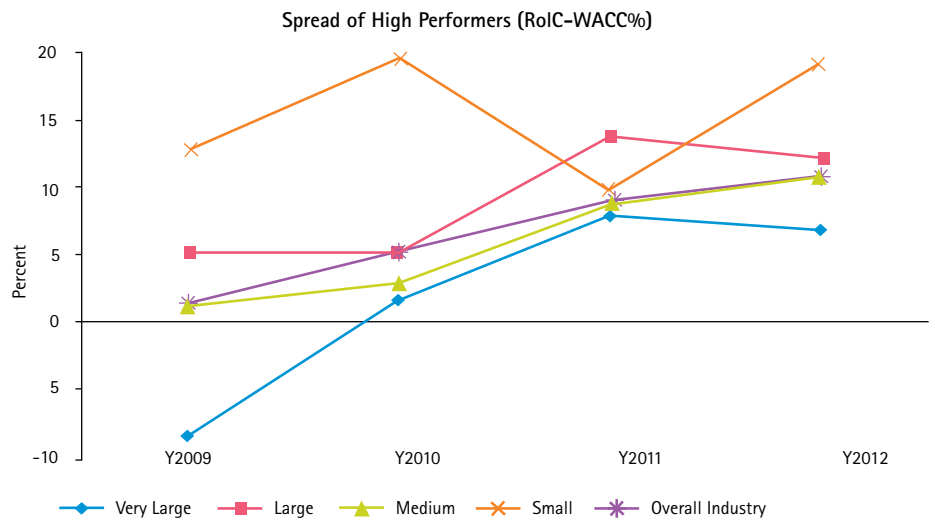
As many industry leaders pointed out during the interviews, "It's not about revenue, it's about value creation." In evaluating value creation, the research team analyzed spreads—differences between return on invested capital (ROIC) and the weighted average cost of capital (WACC). Several interesting insights arose from this process. (See Figure 34.)

- High performers across size segments have created value (they had a positive spread) over the past two years, even though very large firms were in the value-destruction zone in 2009.
- Other companies (peers) across size segments destroyed value^{xv} throughout the analysis period except for large firms that have moved into positive territory since 2010.
- Despite an uncertain economic situation, high performers have increased their spread by 600-1,500 basis points during FY2009-2012.
- In the same period, peers have increased spread by -200 basis points to +200 basis points with the exception of large players, who have increased spread by 900 basis points. These are the only sets of peers who have been able to achieve positive spread.

Discussions with auto-component players revealed an inadequate appreciation of spread^{xvi} and value creation among most firms.

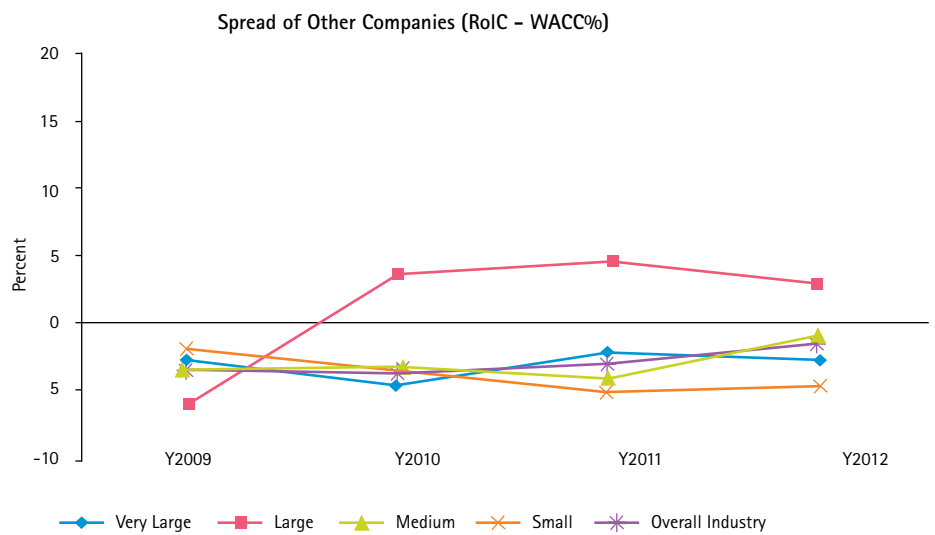
Interestingly, high performers have achieved a larger spread owing more to higher ROIC than to lower WACC. Moreover, the strategies that companies have deployed have differed across company sizes. (See Figure 35.) Smaller companies have been less aggressive in their capital investments but have been able to get the maximum return from their limited investments. On the other hand, medium to very large companies have aggressively stepped up capital investments to deliver superior growth.

Figure 34: Comparing value-creation spread



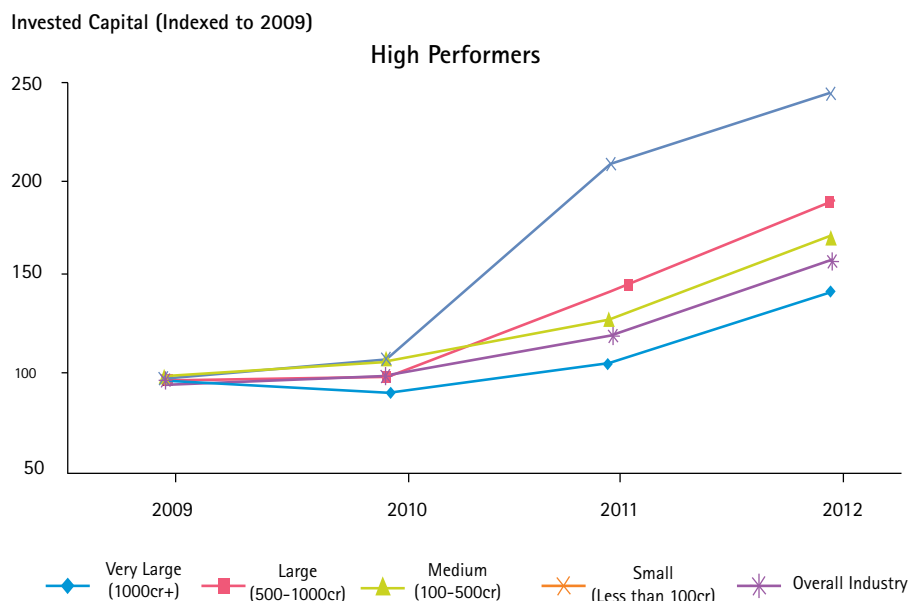
Sources: Company accounts data and Accenture analysis.

Figure 34 A: Comparing value-creation spread



Sources: Company accounts data and Accenture analysis.

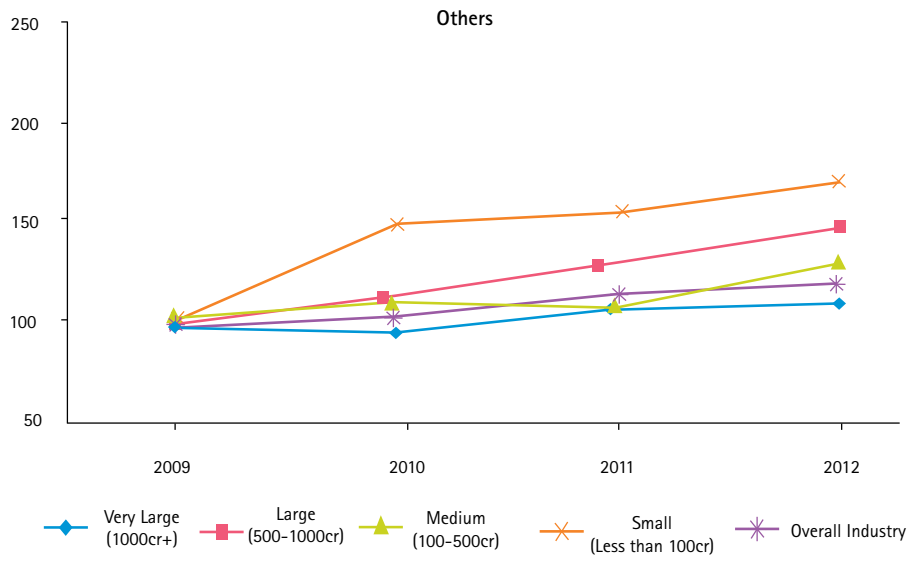
Figure 35: Comparing invested capital



Sources: Company accounts data and Accenture analysis.

Figure 35 A: Comparing invested capital

Invested Capital (Indexed to 2009)



Sources: Company accounts data and Accenture analysis.

Section Four: An agenda for action

Obtaining inputs from Component industry stakeholders

Chapter 7: The High Performance Business Framework and India's auto-component industry

- Market focus and position
- Distinctive capabilities
- Performance culture

The aftermarket opportunity

Chapter 8: Creating an enabling environment

- Recommendations for OEMs
- Recommendations for ACMA
- Recommendations for the Government



Obtaining inputs from industry stakeholders

With a view to making the research report more insightful, multiple sets of relevant stake-holders were identified and interviewed. These segments are described below for reference. A structured questionnaire was first circulated to these interviewees to allow them time to prepare for discussions, and, this was followed by an in-depth interaction.

Segment 1: Auto-component manufacturers

Auto-component companies were identified in a manner that all segments could be covered. These segments include:

- Size segments: Very large, large, medium and small players
- Product segments: Engine components, Transmission components, Plastic components etc., including companies working with iron & steel, aluminum and other metals, rubber, plastics etc.¹
- Cluster segments: From various different geographical clusters like Gurgaon, Pune, Jamshedpur, Chennai, Coimbatore etc. Each geographical cluster is also representative of similar environmental situations E.g. Dependence on single OEM, predominant labor issues, predominant power issues etc.

Key decision makers were interviewed – Typically, the Promoter / MD / Chairman or the CEO / COO. More than 50 auto-component manufacturers were interviewed.

Segment 2: OEMs

OEMs from the following product segments were identified and interviewed:

- Commercial vehicles
- Cars and utility vehicles
- Motor cycles
- 3 wheelers
- Construction equipment
- Farm equipment

Multiple key decision makers were interviewed for each OEM (different pertinent sets of people for different OEMs) – CEO, Sales and Marketing Head, Manufacturing Head, Purchasing Heads, R&D Head. About 20 senior executives were interviewed across 7 OEMs

Segment 3: Experts

Knowledgeable individuals associated with the auto-component industry were interviewed to obtain an “outside-in” perspective. These experts include:

- Indian Industry experts – Associated with the auto-component industry or the Auto OEM industry and having extensive interactions with auto-component manufacturers
- Financial community – Rating agencies, Private Equity players and Sector Analysts who have interests in the auto-component industry
- International experts – Accenture Auto OEM and auto-component experts from India, USA, Europe and South East Asia, including individuals who had worked with Clients during previous down-turns and are also working with Clients
- Government representatives

11 external experts and 12 Accenture experts were interviewed. In addition, senior representatives from Industry Associations from auto-component space, auto OEM Space and machine tools space were also interviewed.

Chapter 7: The High Performance Business Framework and India's auto-component industry

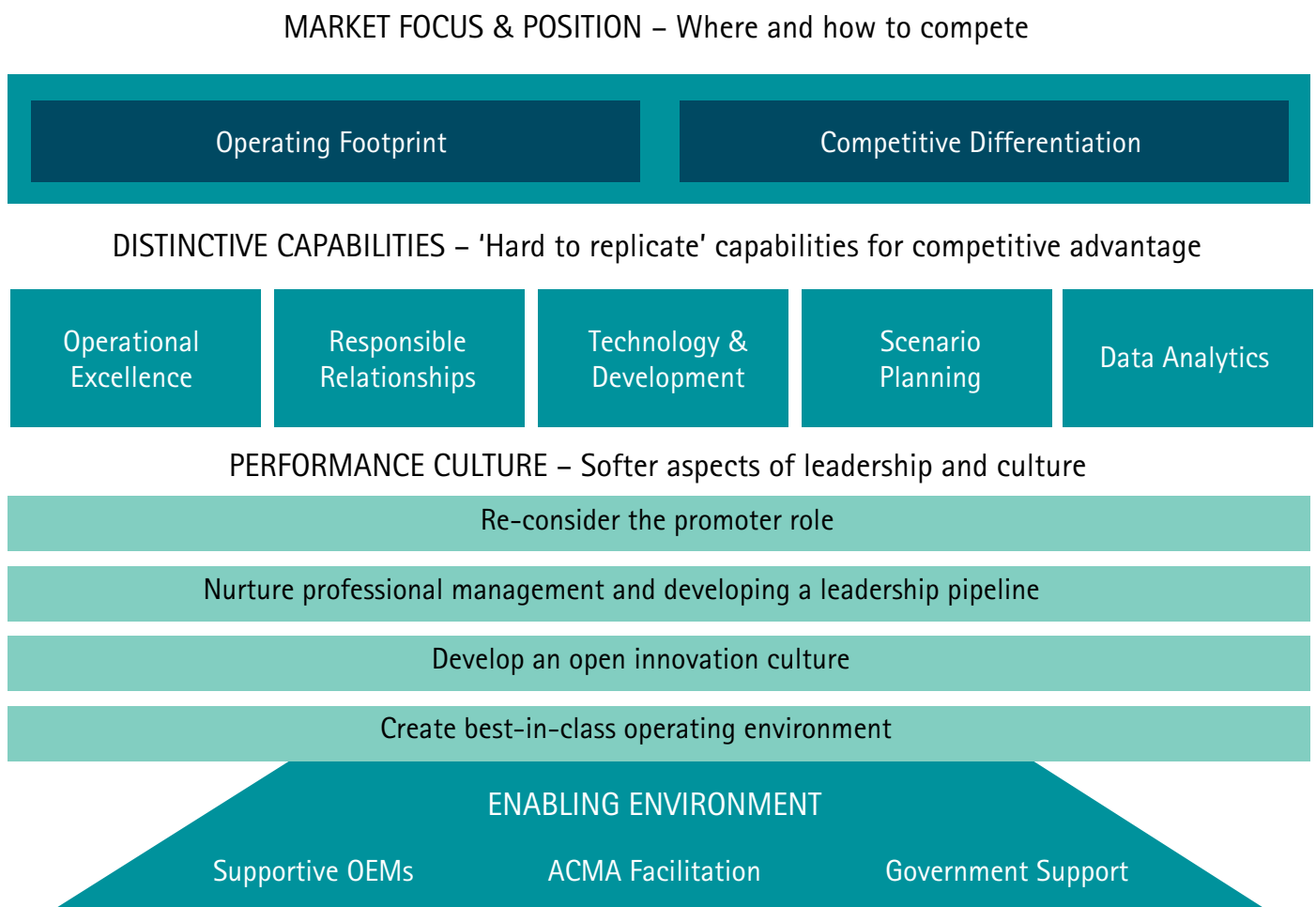
The key objective of this section is to present a High Performance Business Framework that is specific to the Indian auto-component industry and use it to develop an agenda for action. In order to achieve this, in-depth interviews were conducted with Component manufacturers, OEMs, industry experts and these were supplemented by inputs from Accenture experts in the auto space in USA, Europe and Asia with a specific focus on lessons from previous down-turns (See "Obtaining inputs from Component industry stakeholders" for more details). In addition, multiple rounds of discussions were held with the High Performers to understand what they were doing differently and why. During interviews, it became evident, across tiers, that there is no "silver bullet". High performers have figured out unique pathways to succeed. Other companies will need to create and pursue their own plans

for seizing new markets by differentiating themselves from rivals. Building on their existing capabilities and business networks, they will also have to invest in new capabilities to continuously deliver more and more value. To build 'hard-to-replicate' capabilities, the industry—which is dominated by family-owned businesses—will need to take a fresh look at its organizational culture and create an environment that will attract and nurture the best talent. Choice of these distinctive capabilities will differ from company to company. E.g. product development mastery, process re-engineering mastery leading to an ability to pass on price reductions to OEMs, ability to work well with multiple technology partners, ability to integrate operating footprint with the global auto market and leverage global growth opportunities, leveraging foundational core competencies to expand into adjacent

industry spaces, personal leadership and commitment of the promoters etc. Accenture has developed a framework for the Indian auto-component industry that synthesizes all these dimensions. (See Figure 36 and "Methodology for understanding high performance in the industry.") The framework comprises three essential building blocks:

- Market focus and position—decisions regarding, where and how a business will compete
- Distinctive capabilities—decisions regarding, which "hard-to-replicate" capabilities are needed for competitive advantage
- Performance culture—decisions regarding, what common mindsets relating to culture, leadership and workforce management are needed

Figure 36: High Performance Business Framework for India's auto-component industry





Market focus and position

Making an appropriate choice of operating footprint (where to compete) coupled with developing a clear strategy for value-based differentiation (how to compete) is the first step to achieving high performance.

Accenture's analysis of high performers in the auto-component industry in India, and elsewhere in the world, suggests that operating footprint is a core element of leaders' market-focus and position strategy. For high performers, operating footprint is not only about mitigating risk but also about identifying and nurturing new sources of revenue to boost top-line growth. Global leaders like Johnson Controls, Continental AG, Magna etc. present excellent examples of companies that have managed their operating footprint well. Similarly, one can find excellent examples among top Indian auto-component companies as well. There is no one "right" recipe for determining a company's operating footprint; auto-component manufacturers need to identify and develop their own. Some of the choices that they can make are discussed below.

Five axes of operating footprint

There are multiple axes along which operating footprint can be evaluated. Many companies have a very constricted view of these axes. High performers have evolved a more nuanced understanding of their operating footprint than their peers have. They are always on the lookout for opportunities to expand their footprint across multiple axes—including geographies, adjacent industries, sectors that they serve and customers (independent of one another or simultaneously). In addition, they inevitably expand their operating footprint across the value chain and increase the "value-add" in their offerings. (See Figure 37.)

Companies do not need to operate on each axis and every node of an axis to create an effective operating footprint. But they do need to make careful judgment calls to develop their unique footprint and then develop the required capabilities.

There is a widely held misconception that this building block is pertinent only to big companies. Many of the high performing small and medium companies have operating footprints that span multiple axes –For example, a small auto-component manufacturer with a turnover of less than 100 crore has emerged as a high performer (basis the HPB analysis) by operating across four out of the five axes. (See Figure 38.)

Figure 37: Operating footprint axes



Figure 38: Operating footprint of a medium-size high performer identified through HPB analysis

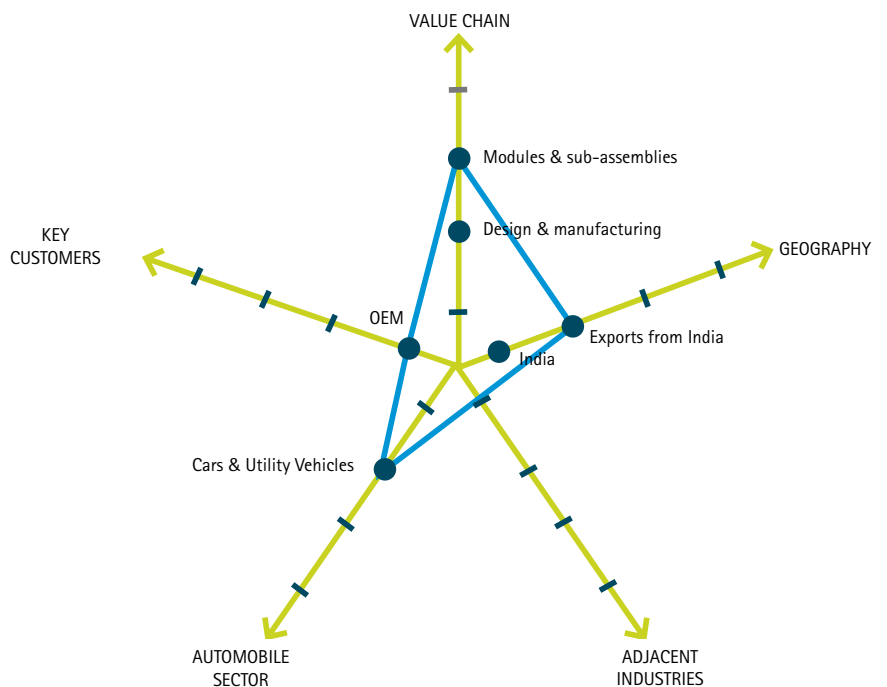
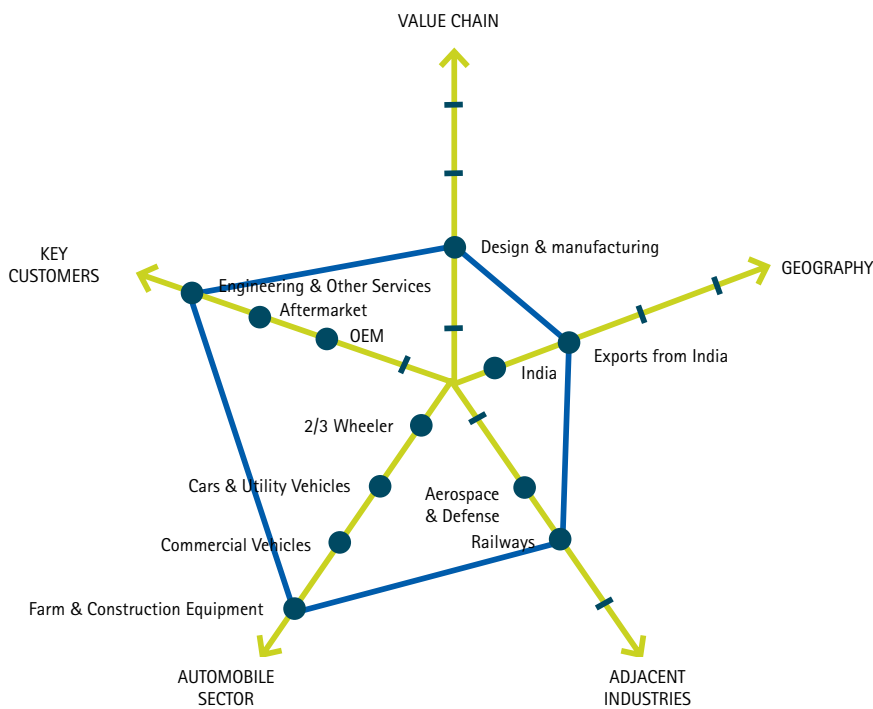


Figure 39: Operating footprint of a large high performer identified through the HPB analysis



Moreover, this high performer has expanded not only on different axes but also along the axes. E.g. In addition to manufacturing and designing components, this enterprise also builds modules and subassemblies. Similarly, the company also sells its products in India as well as to export markets. These strategic choices have helped the company to maintain high performance even during the downturn.

A large company in the HPB study offers an additional example. This organization has established an expansive operating footprint across axes covering several nodes along each axis. (See Figure 39.)

This company has spread its business risk across all five axes and has achieved a high degree of maturity along most axes. For instance, during the current downturn in the automobile sales in India, this company's exports to other countries, and, its sales to the farm & construction sector helped it preserve its top and bottom line.

Competitive differentiation

After making strategic choices 'where' to compete (i.e. operating footprint), the next set of questions that companies need to answer are around 'how' to compete, and in so doing, clearly outline areas of competitive differentiation (i.e. those levers due to which they are likely to enjoy a competitive advantage vis-à-vis competition).

Detailed discussions with high performers reveal that there are a few simple and fundamental dimensions around which auto-component companies need to make choices to achieve their competitive differentiation. (See Figure 40):

- Quality
- Cost
- Design and technology
- Delivery and timeliness
- Management Systems

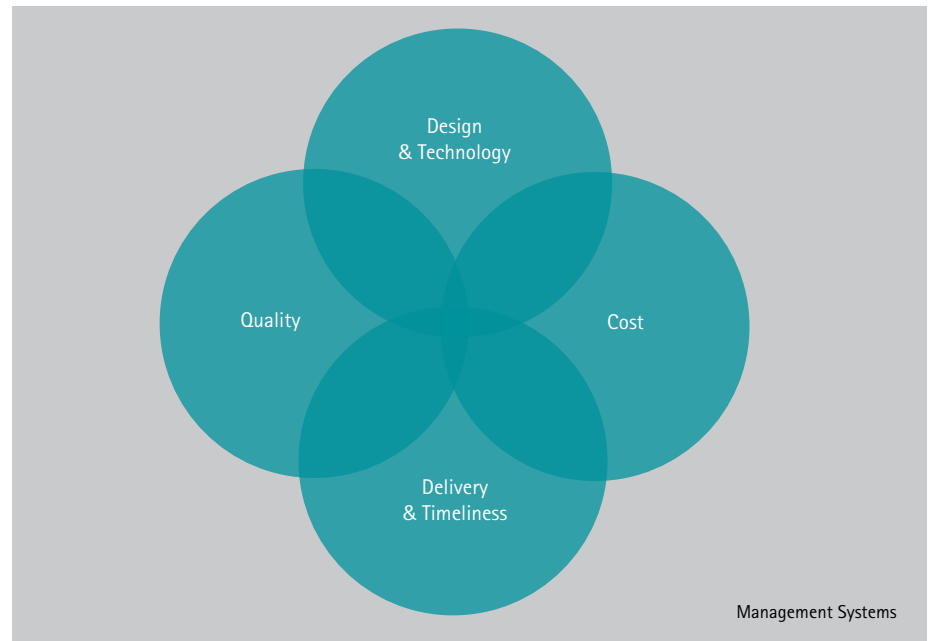
In an evolving competitive environment, quality is no more than table stakes^{xvii}: Auto-component manufacturers across any tier cannot survive if they fail to provide a quality product. This is a "hygiene" expectation. However, the auto-component manufacturer has the freedom to exercise the choice of using combination of technology and processes to achieve the desired level of quality. In order to receive returns on the investments made, auto-component manufacturers need to be prudent and focus on achieving quality improvements discernible by the OEM or the end consumer.

Cost differentiation without sacrificing quality is particularly critical in a VUCA environment. As discussed earlier, VUCA forces are compelling OEMs to continually push their tier-1 component suppliers on price. The suppliers then apply similar pressure to manufacturers at the tier-2 and tier-3 levels. High performers in the auto-components industry use a combination of techniques that are oriented towards waste-reduction, manpower productivity, low cost automation etc. to achieve cost differentiation. These are further detailed in the section on Distinctive Capabilities.

A few companies have even adopted unique practices to achieve cost differentiation in their journey toward high performance. Consider how a leading manufacturer of automotive lubricants is achieving such differentiation. The company has separated its business-to-business (B2B) and business-to-consumer (B2C) operations into different plants to support its differentiation strategy. It has almost completely automated the shop floor for its B2B operations to maintain stringent process controls for complex lubricant products. For its B2C business, its competitive positioning relies on brand, distribution and cost leadership. The firm therefore pursues a level of semi-automation on its shop floor to reap the benefits of a cost-efficient Indian workforce while continuing to meet high quality standards.

Differentiation driven by design and technology leadership is clearly a very pertinent factor using which high performers progress along the 'Value Chain' axis of the operating footprint. Increasing technology quotient in design is being achieved by mature companies through multiple means e.g. development and use of high performance/ lighter materials, superior manufacturing equipment or process that produces a superior performing component, better designed component that boosts the performance of the automobile etc. While global auto-component players also integrate electronics and software into their overall offer to OEMs and customers, this is not widely seen in the Indian context, e.g.

Figure 40: Five elements for competitive differentiation



real time transmission of information about component health (for critical components), consumer alarms when components need to be replaced etc.

Delivery and timeliness is the fourth important element for competitive differentiation. At a transactional level, this dimension involves being easily accessible to the OEM and adhering to delivery timelines. However, this dimension also presents a trade-off an auto-component manufacturer needs to address, e.g. between service level provided to customer and cost incurred in achieving that service level (including locating a plant or warehouse close to the OEM; inventory required to service sudden demand; etc). While it may seem that the sunk costs required for achieving these high service levels are high, many high performers choose to incur those costs to achieve the long-term gains promised by making this choice. In addition, high performers focus on integrating various techniques on the shop floor that help them become more sensitive to their customers' delivery requirements. For example, one high performer has an "engineers' hotline" that enables engineers on the shop floor to stay in regular touch with engineers at their OEM customers. Through the hotline, both parties can better understand each other's concerns so that the components supplier can make timely, high-quality deliveries to its customers.

Strong management systems are needed to create the right value proposition from the elements of quality, design and technology, and delivery and timeliness. High performers put together professionally run management systems capable of harnessing the combination of elements

to achieve competitive differentiation. The right management systems enable companies to generate enough cash to maintain liquidity in their operations. In addition, through such systems, companies can step up the frequency of business review processes, including cost analysis, risk analysis and product portfolio reviews. Finally, sound management systems position companies to establish a faster "decision-feedback-review" loop.

In this section, a few important illustrative action items have been provided to help auto-component companies operationalize the first building block – Market focus and position.

Market Focus – Where and when to compete

Immediate Term (3m)

Building Block	Small	Medium	Large
Operating Footprint	Identify extent of dependence on key customers, key countries, key industries, key markets etc.	Identify axes along which you are not significantly diversified – such as customer, country, segment and industry. Base identification on at least 3 criteria: revenue, profit and investment.	
	Identify which axis of diversification to prioritize, such as country, product and segment.	If you are not diversified along more than 2 axes, identify which axis to prioritize.	Tie in above with your overall long-term plan and identify axes to be prioritized over the short, medium and long term. Set targets.
Competitive Differentiation	Promoter clarifies the business's values and vision, and defines goals and core capabilities required to meet goals.		Launch strategic planning initiative with clearly defined goals and identification of core capabilities. If these are not clearly defined, involve the Promoter and top management in setting priorities.
	Promoter develops a view on management practices required to achieve goals, and identifies gaps and the resources needed to close them. If most of the needed resources exist, Promoter fosters a climate that supports strategic planning.		

Short term (3m to 1 year)

Building Block	Small	Medium	Large
Operating Footprint	Create a high-level target around what diversification should look like in 3 years: axes and levels within each axis.	If planned market development is a mature function, follow steps below, or use steps outlined for small companies.	Create a "bank" of diversification initiatives with direct oversight from CEO and ownership by a CXO.
	Involve (CEO-1) and (CEO-2) layer in diversification logic and high-level targets.	Create high-level implementation plans and project initiatives with clear ownership for each initiative, under CXO leadership.	Carry out scenario-based stress testing of the business and create contingency plans for further diversification if required.
	Empower teams with ownership of initiatives, targets and required budgets.	Check that concrete progress (based on outcomes) has happened on at least 1 identified axis of diversification.	Create a specific CXO role focused on business de-risking if such a role does not yet exist.
	Identify specific actions that Promoter/CEO must take.	If not, identify where constraint exists, and solve with new capabilities, initiatives or resources.	Create a specific CXO role focused on business de-risking if such a role does not yet exist.
	Review and fine-tune as needed: axes, targets, talent required, capability required and budgets.	Periodically check sales, profitability and investments made for different diversified markets. Define and monitor a "diversification score."	
Competitive Differentia-	Ensure shared understanding among Promoter and top management around vision, goals, core strengths and capabilities. These can be Promoter driven at this stage.	Fill resource gaps at top management levels and at other key positions to the best extent possible – through internal or external resources.	Define goals and strategies at the level of detail of capabilities, differentiators, and people. Create a plan for filling capability gaps from top level to operational level.
		Check that strategic planning with clearly defined goals, strategies and core capabilities has happened with involvement of Promoter and top management.	Develop medium-term action plans at a quarterly granularity in line with the strategic plan and factoring in dependencies. Ensure that actions in the plan can be measured.
	Create high-level milestones at a quarterly granularity in line with above, with clear responsibilities against each.	Define goals and strategies at the level of detail of capabilities, competitive differentiators and people. Create plans for filling capability gaps from top level to operational level.	Check that at least 1 cycle of quarterly tracking has happened with involvement of Promoter.
	Create tracking mechanism (to be handled by Promoter's office) and implement against milestones detailed above.		
Identify technology content in existing businesses, products and processes. Perform similar analysis for appropriate competition in India and for global competition to identify gaps.			

Medium Term (1 to 3 years)

Building Block	Small	Medium	Large
Operating Footprint	Check that progress has happened on 1 to 2 of the identified axes of diversification.	Check that progress has happened on at least 2 more identified axes of diversification.	Ensure that business is significantly diversified along multiple axes.
	Conduct scenario-based stress testing of the business. Create contingency plans for further diversification if required.		Periodically review profitability, ROCE and potential of all diversified markets.
	Periodically check sales, profitability and investments made for different diversified markets.	Create a specific CXO role focused on business derisking (if such a role does not already exist).	
	Explore alliances with technology partners in niche areas with an eye toward the future.		
Competitive Differentiation	Check that at least 5 to 6 cycles of quarterly tracking of strategy implementation has happened.		Identify critical partners and introduce own strategic plans to them. Also get involved in their strategic planning
	Review strategy and determine whether refinement is needed based on current realities and market conditions.	Create an index to measure technology intensity of business - in design, manufacturing process, product offering etc. Create programs to increase technology index.	
	Establish clear understanding of competitive differentiators. Craft a plan to capitalize on these.	Identify the area in which the business needs to create competitive differentiation. This could be different for different customers or product groups. Ensure that the decision ties in with strategic plans. Categorize company's top 10 products along differentiation dimensions.	
	Ensure that at least 50 percent of new products conform to the stated competitive differentiation position the firm has agreed on.		

The aftermarket opportunity

The aftermarket is a segment in the automotive industry that is gaining prominence on high performers' radar screens. Accounting for global revenues of US\$480 billion,³ or nearly 30 percent of the total automotive-parts industry in 2012, the aftermarket presents a valuable opportunity. Its share of the broader auto-parts industry has been stable historically, remaining within 1-2 percent on either side of 30 percent. Occasionally, it climbs during recessions. Given that new-vehicle production is the primary source of vehicle parc increase, and that the size of vehicle parc is a critical determinant of aftermarket activity, over the long term, the health of the aftermarket is tightly linked to that of the original-equipment market.

The automotive aftermarket is thus a crucial link in the automotive value chain. The market is highly competitive, dynamic and technology savvy. The increasing number of cars on the road each year translates into mounting demand for replacement auto-components. Although resilient to a degree, the aftermarket is not completely recession proof. However, it does display an inverse correlation with OEM sales. Focusing on the aftermarket will therefore help parts suppliers balance their product-portfolio risk better in a VUCA environment. Moreover, it will enable them to deepen their understanding of the automobile lifecycle and use that understanding to design products that help vehicles operate more efficiently and effectively over their lifespan.

The aftermarket segment in India is expected to grow from US\$3.9 billion in 2008-09 to about US\$8.4 billion in 2015-16, reaching US\$12.7 billion by the end of 2020-2021.⁴ While the aftermarket in India may appear large, it is much smaller compared to what the European and the Chinese aftermarkets will achieve in 2015. The automotive aftermarket in Europe is expected to reach US\$116.9 billion by 2015.⁵ The Chinese aftermarket is expected to be the largest in the world, boasting a sales value of about US\$200 billion by that same year.⁶ In fact, the size of the aftermarket in India anticipated for 2020 is what Europe had already achieved in the late 1980s and China in the late 1990s.

This presents an immense opportunity for Indian auto-component manufacturers, who already enjoy robust relationships and strong ratings with OEMs in India and the remaining large aftermarket geographies.

Accenture's interactions with senior executives and industry experts reveal that companies earn returns from aftermarkets

much faster than OEM markets. In addition, returns from aftermarkets are better because the investment made is smaller and the margins bigger. Finally, historic trends indicate that when the automotive market slows down, the aftermarket picks up. Given the volatility in the economy and automotive sector, now is the time for auto-component suppliers to push their efforts in the aftermarket.

³Smith, J. "Automotive parts aftermarket: Uncovering investment opportunities in an overlooked market," Newton Strategy Group White Papers, Newton Strategy, 2013. Downloadable at: <http://www.newtonstrategy.com/assets/downloads/062413%20Automotive%20Aftermarket%20White%20Paper%20FINAL.pdf>. Accessed on August 17, 2013.

⁴ACMA. "Indian Automotive Aftermarket: The Future Ahead," Indian Automotive Aftermarket Study 2011.

⁵See more at: <http://news.woob.com/1407821/a70079/europes-automotive-aftermarket-to-hit-value-of-116-point-9-billion-by-2015#sthash.IS349zWD.dpuf>.

⁶See more at: <http://www.isf-tarsus.com/sectors/automotive/automotive-aftermarket-china>.



Distinctive capabilities

After identifying 'where' and 'how' to compete, auto-component companies need to determine 'what' hard-to-replicate capabilities they should develop to execute their competitive strategies.

Research identifies five distinctive capabilities that high performers build to outpace their competitors: operational excellence, responsible relationships, technology development, scenario planning and data analytics.

Operational excellence: Setting the shop floor in order

Operational excellence enables companies to reap maximum results from all elements of their operations – including manufacturing as well as use of labor, technology and capital.

To achieve operational excellence, high performers develop best practices that lead to optimal operations. The shop floor plays a critical role here, because it is the heart of any auto-component's company. This is where the major action takes place and where maximum value is created for the company and its customers.

HPB analysis identifies two shop-floor-related capabilities that are especially essential for auto-component manufacturers to develop, particularly in the VUCA environment. These center on reducing breakeven volume and achieving flexible manufacturing.

Reducing breakeven volume

Faced with volatile demand, auto-component companies are expected to provide price discounts to OEMs to enable them to lower end-consumer prices. At the same time manufacturing and other costs of production keep on increasing. High performers typically look at organizing themselves in a manner that reduces breakeven volume. This is calculated as follows:

$$\text{Breakeven volume} = (\text{Fixed costs}) \div (\text{Provision per unit})$$

$$\text{where provision per unit} = (\text{Revenue minus all variable costs}) \div (\text{Number of units})$$

Looking only at parameters that companies can control, the feasible option for reducing breakeven volume is to remove as much fixed cost from the system as possible and to control variable costs. High performers are very deliberate and methodical in such an exercise. They question and evaluate every "line item" of cost and try to eliminate or reduce it. In many cases such an exercise requires tough decision making around existing processes (E.g. process for

spending on travel, controls on spending for G&A items, fine tuning and strict enforcement of delegation of authority for financial approvals etc) and even require leadership by example (E.g. class of air travel, entitlement and class of rental car etc). Again, many outsourcing decisions are also taken with a view to reducing fixed costs for the level of service required. Interestingly, many companies look at the math around outsourcing through a unique lens – Specifically, they may be willing to pay a higher per-unit price by outsourcing a fixed cost. Why? With variable costs, they pay only for what they use, so they protect their profitability even if sales slowdown. In effect, they share the risk of under performance with the vendor to whom they outsource. Also, decisions around trading off cost of outsourcing with the service level demanded tend to be a lot more controllable when the service is outsourced.

A Pune-based engine company recently lowered its breakeven volume by first identifying high-value-add operations in the production value chain. It then opted to carry out only those value-intensive operations at its plant, outsourcing the remaining operations. By adopting this strategy, the company conserved costs and broke even at lower volumes. It also retained its vendor base during a difficult time. Moreover, it was able to focus on developing cutting-edge processes in value-intensive parts of the production chain.

In addition, auto-component manufacturers of all sizes are further reducing fixed and variable costs by operating fewer daily shifts as well as operating only four or five days a week. For instance, an executive from a large auto-component company mentioned that his business operates four days a week because of current low demand. This has helped the enterprise reduce costs in areas such as logistics, power and fuel, as well as general expenses such as canteen services.

Achieving flexible manufacturing

There is a commonly held misconception that achieving flexible manufacturing requires big investments in specialized machine tools and equipment. In practice, improving shop-floor operations to succeed in a VUCA environment requires, among other things, shop floor changes as well like smarter product routing as well as reduction in set-up, queuing and product-completion time. At the same time, companies must maintain quality and serve different clients simultaneously. Conventional wisdom dictates that flexibility has a cost. However, high performers are able to introduce innovative process and work-practices along with low cost automation so that the cost of flexibility is either negligible or

minimized. In practice, most high performers have adopted a manufacturing strategy that is a mix of low variety and high volume production along with low volume and high variety production.

Flexible manufacturing is also important for serving the aftermarket, which demands smaller lot sizes. In the current downturn, even OEMs are demanding smaller lot sizes, stressing the need for flexible manufacturing.

Other approaches to operational excellence

Most auto-component manufacturers claim to understand and use approaches like 5S, lean manufacturing (waste reduction/ elimination), six-sigma etc. However, a deeper enquiry reveals that many manufacturers may not have a sound understanding of such quality systems. Hence, high performers are differentiating themselves from peers even in the adoption of such manufacturing quality systems.

For instance, while most manufacturers make changes at the level of processes and tools and templates, a medium-size auto-component manufacturer has recently initiated an exercise to take 5S adoption to a higher level, weaving it into its DNA. They have embarked on a journey to explain and embed the philosophy of 5S in the operating workforce prior to putting in place processes and tools. This is a long term and arduous journey, but, promises to catapult the company to a different league in the domains of operating excellence and quality.

Some other approaches for achieving operational excellence that are being used by industry players are:

- **Low-cost automation:** Perspectives on automation have evolved in the auto-component industry. As one executive from a high performing manufacturer explained, "Automation, low or high cost, is now being adopted and measured not from the perspective of reducing manpower on the shop floor, but to achieve consistency of quality and traceability. It's about reducing defects in spite of poor quality of power and manufacturing infrastructure and being able to cut down on the cost of future manpower."
- **Manpower productivity:** Auto-component manufacturing is, in many cases, a labor-intensive industry; thus manpower productivity is vital to achieving overall operational excellence. With increasing employee salaries and wages, manpower cost has also become more important from a profitability perspective. In addition, with existing labor laws in the country, salaries and wages become fixed costs on balance sheets, becoming a cause for concern when demand decreases. Auto-component companies try

to use a mix of permanent and contract workers to become more flexible, but OEMs and many Tier 1 players have cautioned that this typically has an impact on quality of the product. Most large and very large players are very effective in using multiple process re-engineering and industrial engineering tools to improve manpower productivity of blue collar workers. High performers supplement such initiatives with efforts aimed at increasing communication, engagement, sensitizing employees to customer requirements, "multi-skilling" etc. White collar staff represent more of a challenge in terms of salary escalation as well as high attrition. In this domain, most high performers believe in identifying, growing and nurturing white collar talent in-house and employ a combination of innovative engagement, learning and financial incentives to retain key people.

Responsible relationships: Working together to create profitable value

Relationships are central to an auto-component supplier's growth model. Partnerships based on trust and fairness define the performance of the entire automotive value chain. The auto-component industry has learned that a good relationship with an OEM translates into more business from that OEM while also opening up opportunities at other OEMs. Similarly, the industry has seen that good relationships with employees translate into higher productivity, better products and consistent quality.

To take relationships, especially with OEMs, to the next level in a VUCA environment, high-performing suppliers are viewing business through the lens of their OEM customers. When one OEM executive was asked about this, he replied, "I need a supplier who can see my problem through my eyes and feel where the shoe pinches me the most. I need somebody to come to me with a solution and be with me during my tough times so that I can be with him during his". In short, leading suppliers not only understand their clients' problems but also take initiative in suggesting solutions. For example, they might offer to send some of their engineers and other skilled workers to an OEM's shop floor to help address a problem with sorting or subassembly, rather than waiting for the request to come from the OEM.

Such relationships can benefit auto-component suppliers enormously. Graduating from a 'transactional' relationship to a 'collaborative' and 'symbiotic' relationship helps. A large auto-component supplier with annual sales

worth Rs 870 crore was compensated by its OEM customer for providing incorrect demand projections for a year as a result of such a graduation. This is uncommon in the automotive industry, but the strong bond between this supplier and its customer made it possible.

However, investing in strong relationships isn't only about customers. It's also about employees. Auto-component suppliers have long struggled to secure highly skilled talent, so forging responsible relationships with employees will be critical for addressing this challenge. Leading companies build good relationships with their workers by continually investing in their development and helping them advance professionally. A major pistons company and an industry high performer discovered this firsthand. The enterprise has paid tuition for shop-floor workers to take classes at reputed engineering colleges in the vicinity. The company also extends financial support to engineers who want to take post-graduate courses in subjects linked to the business's growth plans.

HPB research identifies two capabilities essential for auto-component manufacturers to develop, particularly in the VUCA environment. These center on fostering symbiotic win-win collaborations and collaborating with technology institutions.

Fostering symbiotic win-win collaborations with OEMs

While collaboration is common across suppliers, symbiotic win-win relationships are rare. To survive and thrive as an industry in a VUCA environment, the most effective auto-component suppliers are focusing on this latter type of collaboration with OEMs. For instance, a very large auto-component manufacturer was persuaded and supported by its customer OEMs to make two substantial acquisitions in 2009 and 2011. It can be argued that without this push, the component maker would probably have not considered acquisition. Both the acquired companies were facing operational issues. The OEMs, which depended heavily on the two companies for their components, wanted a reliable buyer that could handle complexities without disrupting supplies. This led to a mutually beneficial situation and a win-win collaboration between the auto-component manufacturer and its customers. Such examples are also typically seen in the Japanese auto-component industry.

Collaborating with technology institutions

Auto-component manufacturers across tiers in India can benefit by partnering with reputable technological institutions. Such businesses in Germany have set an example by evolving into industrial empires through consistent collaboration with engineering and R&D centers located within academic institutions. Some Indian companies are doing the same. A leading tier-1 business, for example, has forged partnerships with academic institutions and has signed a formal memorandum of understanding (MoU) with Carnegie Mellon University aimed at enhancing its understanding of application of robotics on the shopfloor.

High performers further foster responsible relationships by applying the following practices:

- Forging win-win relationships with tier-2 and tier-3 manufacturers: In addition to developing healthy relationships with customer OEMs, forward-thinking auto-component manufacturers are creating robust relationships with their own suppliers. And they are treating those suppliers the same way they would expect OEMs to treat them. Flexible manufacturing plays a role here. The existing western model of flexible manufacturing is cost and capital intensive. But with its proven benefits, the concept holds tremendous promise for enhancing the performance of auto-components players in a VUCA environment. Instead of considering the capital-intensive nature of flexible manufacturing as a barrier to its adoption, players across the three tiers in the auto-component industry can collectively build a unique ecosystem capable of developing low-cost flexible manufacturing solutions for the global auto-component industry.
- Building healthy industrial relationships: The auto-component industry is close-knit, in which peers, their suppliers and their customers all depend heavily on one another for mutual success. The most effective industry players know this and therefore strive to cultivate mutually beneficial relationships. For instance, they share best practices, knowledge and resources such as to help one another grow and weather tough times. They also come together and leverage the power of industry associations to exert influence on key stakeholders such as Government. To illustrate, ACMA member companies have worked to take their collective grievances to the Government to set the stage for more favorable policies and greater support for the industry. Similarly, savvy auto-component manufacturers collaborate with players in the machine tool industry to conduct R&D in new machine

technology that could ultimately pay big dividends for both industries in the form of innovative equipment and manufacturing processes.

Technology development: Building offerings of the future

Technology development in the auto industry worldwide has been driven primarily by regulations related to the environment and safety, Government policies and the need to meet customers' growing needs while also remaining competitive.

In the Indian auto-component industry, technology development is still largely synonymous with reverse engineering and process methods adopted to minimize waste and costs.

Leading practices for strengthening this distinctive capability include enhancing product development and achieving deep localization.

Enhancing product development

With innovation cycles shortening to accommodate fast-changing customer preferences and regulations, progressive auto-parts suppliers are striving to modify their development processes and tools to keep pace. Moreover, as OEMs work to strengthen their core competencies, suppliers in India and around the globe will have a new opportunity to capture additional value creation—across R&D, engineering and production.

An executive from a technology-intensive tier-2 supplier maintained that to take advantage of this opportunity, "it's important to recognize that the automotive industry has been and will continue to be a knowledge industry." He added, "Tier-2 and tier-3 players will need to recognize that R&D is imperative," because that is the only way they can transition from a "you design and I deliver" relationship to one where they design and deliver the product end to end.

A Haryana-based auto-component manufacturer has grown into a large company by applying this principle. "Even during years of poor revenue, the only expenditure my company did not cut was on R&D," said the company's managing director. Today this supplier is one of only a few global suppliers to a German car brand with whom the OEM co-designs and delivers critical components.

Achieving deep/ true localization

Automotive OEMs have increasingly looked to deeper localization to adapt to customers' preferences at lower costs. To help OEMs achieve efficient deeper localization, the high performers strive to understand their

customer OEMs' challenges and operations as well as identify and seize design, prototyping and engineering opportunities. They are also ready to invest in and explore non-traditional partners to develop unique offerings. For example, a large auto-component supplier with a turnover of more than Rs 1,000 crore is working with a Pune-based IT consulting and product engineering company to develop and deploy technologies needed for electric and hybrid vehicles.

According to OEMs, deep localization will be achieved only when critical activities spanning the entire value chain—from design to sourcing to manufacturing—will be done for and in India. To help realize this goal, some auto-component manufacturers are also guiding their tier-2 and -3 suppliers to localize their operations. For instance, a medium-size auto-component manufacturer periodically and proactively identifies components that are currently being imported and explores ways to manufacture these in India.

HPB research also indicates that high performers focus on the following actions:

- **Reverse engineering:** Auto-component manufacturers spend a substantial amount of money sourcing technologies from foreign companies. By developing reverse-engineering capabilities, manufacturers can analyze the structure and function of the technology used and develop in-house capability to develop that technology. Tier-2 auto-component manufacturers can successfully use reverse engineering as a tool to take on some of the tasks now performed by their tier-1 customers to demonstrate their capacity to add value for their clients. For example, a tier-2 manufacturer near Pune has successfully collaborated with his tier-1 component manufacturing customer to reverse engineer a coating technique. Through this collaboration, both manufacturers discovered a cheaper way of performing the task, and the tier-1 company saved valuable time and other resources.
- **Value analysis/ engineering:** Value engineering is a powerful tool for reducing costs while at the same time preserving value that matters to the end consumer. It serves as an intermediate step between real innovation and being a "print to manufacture" supplier. High-performing tier-2 and tier-3 manufacturers who cannot afford to invest in high-end technologies invest in value engineering to deliver greater value for their customers with lower levels of wastage. Value engineering could become a specialty of auto-component firms, as most global auto OEMs are looking at India as a hub for low-cost manufacturing.

For instance, a Chennai-based auto-component manufacturer is developing an innovative, lost-cost 'semipower steering' concept for an OEM mini-truck, which will help drivers more easily make tight turns to park their vehicles.

- **Process innovation:** Process innovation in the auto-component industry is largely aimed at reducing costs. Many process innovations originate from the execution of lean manufacturing techniques and several other Japanese best practices. But auto-component manufacturers have started thinking outside the process-innovation box. For instance, a large high performing auto-component company has innovated a process to convert waste into energy to heat water in its paint shop. This has helped to substantially reduce power and fuel costs. High performers have graduated from reducing wastage along a process to getting at the root of the wastage and pulling it out. This has helped to reduce labor and other resources that were being consumed to operate a process that was generating wastes.

Scenario planning: Growing thoughtfully

A number of auto-component manufacturers engage in business planning and have a clearly articulated business model. But only a handful of high performers have evolved scenario planning into a distinctive capability.

Auto-component manufacturers, especially tier-2 and -3, excel at new-business prospecting (such as conversing with peers and OEMs about business opportunities). They are also good at simple business planning (for example, developing broad plans based on untested assumptions around demand, growth etc). But few parts-manufacturers invest resources in developing a robust scenario planning capability in preparation for a VUCA environment. Such plans will factor in scenarios of unforeseen events such as environmental disasters, sudden demand decreases etc, rather than treating them as exceptional situations which will never happen. Robust plans will also build contingencies for economic phenomena such as FTAs. According to one leading executive, "Scenario planning can help create anti-fragile organizations."

HPB research shows that high performers apply two leading practices in scenario planning: assessing macro and micro impacts, and launching growth initiatives.

Assessing macro and micro impacts

To get the most from scenario planning, leading auto-component manufacturers not only gather data but also extract valuable insights that feed into their strategic plans. High performers use a number of methods to do this. For instance, a tier-2 auto-component company that makes rubber components and other goods for the aftermarket follows a two-step strategic planning method. First, it distills insights from rigorously collected data from OEMs and other customers. Second, it combines these insights with in-depth analysis to develop comprehensive VUCA-relevant plans. By consistently following this method, the company has expanded its manufacturing capacities on domestic soil with greater accuracy and foresight. "Simple as this may look, doing it consistently and with rigor is a science that our company has evolved," said the owner in an interview.

In addition, leading auto-component companies assess economic and industry trends to derive insights suitable for the industry. For instance, a high-performing medium-size company anticipated the downturn in the Indian economy and in automobile sales (by creating a scenario based on the 2008-09 down-turn), and expanded its operational footprint to export markets, realizing that relying too heavily on the Indian market could expose it to upcoming business cycles.

A large Indian auto-component supplier offers another apt example. With a turnover of more than Rs 3,000 crore, this company expanded its operations to markets such as Vietnam, the Philippines and Indonesia and even to distant locations such as Burkina Faso, which provides duty-free access to the company's products in the ASEAN regions and South Africa. Executives made the decision after assessing the economic trends as well auto-component industry potential in those countries.

Launching growth initiatives

Forward-looking auto-component manufacturers develop scenario-planning capabilities to assess organic as well as inorganic routes to new growth. To mitigate risks to the business, such companies identify and analyze various avenues such as moving into adjacent industries or new geographies. In scenario planning, they analyze seemingly extreme situations along with more moderate ones to prepare themselves to operate successfully in any such environment in the future.

For instance, a large auto-component manufacturer had analyzed the benefits of diversifying to adjacent industries during a downturn in automobile sales. As a result of its analysis, it expanded its footprint to

serve adjacent industries such as railways and defense. This helped the company secure new revenue streams and use capacities that have been idle during the downturn.

Similarly, leading auto-component manufacturers apply scenario-planning capabilities in identifying possible merger and acquisition (M&A) targets. M&A deals could be substantial growth engines, so savvy companies periodically factor such deals into their scenario planning for inorganic expansion.

For example, a very large auto-component manufacturer acquired a company in Europe when the worldwide economic crisis hit in 2008. That acquisition paid off when the downturn hit India, as the company was able to capitalize on its foreign facilities

The most successful auto-component manufacturers conduct scenario planning on a regular basis to identify future opportunities well in advance. They also build the following capabilities to further support their scenario planning:

- **Business risk management:** Since VUCA is the new global normal, leading auto-component manufacturers know they need to be more agile and adapt to risks they could face in the future. One large auto-component manufacturer gets this process moving by listing its top 10 business risks at the beginning of each year and preparing a strategy for tackling each risk.
- **Manufacturing and capacity addition:** Progressive auto-component manufacturers analyze high-growth, low-growth and medium-growth scenarios to plan their manufacturing and capacity additions. Even though component manufacturers are dependent on OEMs to plan their manufacturing and capacity, high performers undertake their own analysis to decide what is suitable for their company, rather than looking solely to their OEM customers' decisions for guidance. Also, companies are now more rigorous with their capacities – While companies would typically over invest in capacities based on indications from OEMs (with the expectation of future growth), this is no longer the case. Many component players are now talking about marginally under investing in capacity and using productivity measures to drive higher volume. In addition, while most companies would review capacity utilization once a year, most players now evaluate this on a quarterly basis with a view to rationalizing capacity, where possible.
- **Investment planning:** To achieve maximum returns on their investments, smart auto-component manufacturers develop capabilities for planning future investments in geographies, products and

services. They plan investments in a way that enables them to achieve returns consistently over and above inflation rates. Before making their investments, these companies gain clarity on their future order pipeline and then develop a back-up plan to ensure an acceptable return on their investment. "Before making an investment, we run simulations around various scenarios to ensure that our shareholder money is not squandered," said an interviewee from a tier-1 manufacturer.

Data analytics: Generating insights for swift and smart action

To succeed in a VUCA environment, high-performing auto-component manufacturers depend less on "gut feeling" and "calculated guesses" and instead establish data-driven decision-making processes and business models. With volatility in prices of raw materials, and volatile foreign exchange rates becoming the new normal, processes related to risk management, inventory control, procurement and supply chain management are becoming increasingly complex. To protect their margins, successful companies base business decisions on a granular understanding of data gathered from multiple operations and sources.

For example, OEMs are generating vast volumes of data through more rigorous and frequent manufacturing resource planning. This data can help auto-component manufacturers understand OEMs' pain-points and anticipate their customers' needs better. As a result, suppliers can develop more informed component-production schedules.

To build this distinctive capability, high performers excel at the following practices.

Customer trend spotting and analysis

Auto-component manufacturers do not get much opportunity to interact with end consumers. However, some high-performing companies are making the effort to reach out to end consumers to understand their preferences. For instance, a large auto-component manufacturer sends its own people to shopping mall parking lots to conduct market research on customers to understand their choices and aspirations regarding their automobiles. The manufacturer used this market research data and analysis to develop new products that were very well received by its OEM customers.

Optimizing raw materials

Factories generate huge volumes of data. Across manufacturing operations, information about quality parameters, process trends, maintenance events, parts and spares, materials inventory and more flows steadily into a multitude of manufacturing and business systems. Companies that adopt global best-practices extract insights from the data in these systems and use them to improve manufacturing processes and save precious resources – in close to real time, so that this can be used for immediate decision making.

In addition, high performers typically develop data analytics capabilities around some of the following practices:

- **Analyzing aftermarket data:** The aftermarket presents a large opportunity for auto-component manufacturers. Using data analytics techniques, auto-component suppliers can unearth a number of interesting facets related to this market and use the resulting insights to make wise substantive investments.
- **Analyzing costs and profitability:** In a world of razor-thin margins, a granular understanding of costs is critical for enhancing margins. While many auto-component manufacturers have improved their ability to capture and analyze cost data, their high-performing counterparts are raising the level of the game. Such companies have used this kind of analysis to gain visibility into how much margin they are making on each type of a product. Moreover, they are exploiting analytical tools (including simulation models) to test the feasibility of alternative strategies for managing VUCA dynamics—such as adopting renewable energy sources to combat skyrocketing power and fuel costs using simulation models.
- **Forecasting demand:** Demand forecasting is now routine in the industry. But whether it is carried out scientifically is still not clear. Companies that have invested resources in data-based demand forecasting have reaped benefits. As an executive from one tier-1 parts manufacturer put it, "We do not solely depend on customer input to decide our production cycle, but have developed systems to calculate it on our own. As a result, we have been able to avoid piling up inventories of unsold goods."

In this section, a few important illustrative action items have been provided to help auto-component companies operationalize the first building block – Distinctive capabilities.

Hard to replicate Distinctive Capabilities providing Competitive Advantage

Immediate Term (3m)

Building Block	Small	Medium	Large
Operational Excellence	Identify hygiene practices and assess current level by involving OEMs and experts. Select improvement approach and tools, such as 5S, lean, etc.		
	Choose simple tools that can be easily understood by workers and that can be used to fix basics.	Ensure that the basics are in place. Choose tools that are helpful for institution-analyzing practices and easily monitoring operational best practices.	
	Identify expertise required for operational excellence programs and staff accordingly. Identify need for internal training. If a new program is required, identify/hire a resource around whom a program can be created.		
	Seek help and advice from OEM / Tier 1 on how to proceed. Incorporate input.	Identify 2 to 3 leading practices (breakeven volume reduction, flexible manufacturing) to be implemented in 12 to 24 months.	
Responsible Relationships	Benchmark OEMs and identify best-in-class companies on criteria such as employee engagement, supplier engagement and partnership programs.	Involve suppliers and employee groups in engagement programs. Identify action steps for different time horizons with clear responsibilities for each action.	
	Create forums for employees and supplier to express their views openly. Start off with 1-way communication, then gradually shift to 2-way communication.		
Technology Development	Identify technology component in processes, products and R&D. Classify as "high," "medium" or "low."		
	Understand technology gap by asking OEM / Tier 1 or evaluating competition. Have Promoter drive this initiative.	Benchmark existing level of technology (as identified above) with Indian and global competitors to understand technology gap. Have top management drive this initiative.	
	Identify technology source to be used for process, product and engineering. Have Promoter drive this initiative.	Identify existing expertise within company, and externally source expertise that does not exist within company.	
Strategic Planning	Identify internal individuals who can be groomed for taking on a business planning role (typically from Finance).	If it does not already exist, set up a small business planning team responsible for top management decision support. Arrange for formal compulsory interactions with top management (monthly to quarterly frequency).	
	Identify skill gaps and arrange for identified individuals to be exposed to processes and business decisions.	Develop a clear charter for this cell that includes areas like industry environment scanning, interacting with associations, legislation prospecting, industry analysis and trends and business model innovation.	
	Ensure that this role reports to the Promoter and works on strategy formulation, diversification and competitive differentiation.	Include strategic areas like manufacturing capacity planning, footprint and expansion in the key performance indicators (KPIs) of the Chief Operating Officer. Set up quarterly formal reviews. Include M&A prospecting, growth-focused engagement with private equity (PE) investors/banks and so forth in KPIs of relevant C-suite executive (CxO)	
Data Analytics	Identify main areas where data-driven decision support is critical for company. As a guideline, these areas should not be confused with the existing availability and robustness of data, but should depend on decision-making needs. While some of these needs will be common across companies, others will depend on the company's specific situation and strategy.		
	Start off with a focus on the Shop floor and Purchases & prioritize in each area	Start off with a focus on the Demand forecasting, Shop floor, and Purchases & prioritize in each area	Perform this exercise across the Value Chain & prioritize in each area

Short Term (3m to 1 year)

Building Block	Small	Medium	Large
Operational Excellence	Identify teams for each improvement, assign targets with timeline and allocate budget.		Create a Center of Excellence for operational improvement within company/group.
	Create targets for improvements in individual areas and get buy-in from line workers, supervisors and shop floor managers. Incorporate suggestions for enabling change, and proceed with implementation of initiatives.		Benchmark operational practices against best-in-world. Identify gaps and take needed corrective actions.
	Implement steps for making operational improvement programs permanent and self-sustaining.	Create a separate line item for the following year's budgeting process with budgeted savings from operational excellence.	
Responsible Relationships	Ensure effective implementation of all employee and supplier involvement programs. Ensure that 75 percent or more of identified actions have been implemented, acknowledged by affected people.		Ensure that 90 percent or more of identified employee and supplier actions have been implemented.
	Form a small cross-functional team tasked with understanding customer pain-points and constraints. Use this understanding to develop solutions for customers.		
		Set up a separate supplier development group with representation from different departments whose responsibilities include evaluating and developing suppliers and maintaining supplier-related policies and relationships.	
Technology Development	Set up a team to review company-wide processes and introduce innovations.	Form a separate new product development team responsible for correcting the gaps in the current NPD process and ensuring sequential stages of designing, prototyping, testing, conducting of customer feedback trials and leading product launches.	
	Identify areas for which expertise needs to be developed in-house. Take steps to do so.	Form a separate new product development team responsible for correcting the gaps in the current NPD process and ensuring sequential stages of designing, prototyping, testing, conducting of customer feedback trials and.	
	Set up value analysis (VA) and value engineering (VE) teams to identify projects with timelines and responsibilities. Seek OEM support before or after improvement. Explore joint VA/VE projects with OEM participation.		
Strategic Planning	Create business plans (with scenarios) for 1 year, 3 years and 5 years. Work with Promoter/top management to create contingency plans and identify triggers for starting execution of contingency plans. Selectively engage with customers, suppliers, industry associations and peers to obtain inputs for this.		
	Create business plans for all major investment decisions already taken or which need to be taken in next 6 months. Ensure that plans include CapEx decisions as well as major policy decisions that will substantially change cost structure. Stress-test past decisions and review for improvement levers. Provide sound decision support for future decisions.		
	Promoter exercises judgment on whom to involve in above planning.	Promoter and top management are involved (at varying levels) in above planning, driven by Promoter.	Promoter, top management and identified key managers are involved (at varying levels) in above planning.
Data Analytics	Audit existing data- and information-gathering processes (along with sources and how data is used. Can be IT based or manual. Ensure that audit covers all areas of the value chain, starting from consumer, customer, manufacturing, planning etc. Break task into smaller, more manageable parts depending on the state of existing data and bandwidth available for the audit. Focus on data required for operational and business decision making (as opposed to data required for customer/legal records, traceability etc.).		
	Start with a focus on the shop floor and purchasing.	Start with a focus on demand forecasting, shop floor and purchasing.	Perform this exercise across the value chain.
	Identify manual and automated data-capture methods depending on need and ability to invest.	Identify appropriate IT systems for data pick-up (minimum manual intervention), transactional use and analytics. Create a high-level business plan showing time-phased milestones and approximate expenditure for each system.	

Medium Term (1 to 3 year)

Building Block	Small	Medium	Large
Operational Excellence	Check that progress has been made as per target for more than 75 percent of improvement initiatives identified.	Pick up advanced areas like flexible manufacturing systems and breakeven volume reduction. Create dedicated task forces with identified time lines for pilot programs and success demonstrations.	
	Create a separate line item for the following year's budgeting process with budgeted savings from operational excellence.	Introduce operational improvement metrics into KPIs of managerial and supervisory staff.	
Responsible Relationships	Continue execution of employee and supplier involvement and engagement programs, and ensure complete participation.		Initiate interactions with academia and research institutions to collaborate closely in specific areas of work.
	Identify areas of knowledge capability that need enhancement. Take steps to close knowledge gaps.	Identify areas of specialization and members for developing in-house SMEs and owners for different types of employee, supplier and OEM relationships.	
	Explore alliances for forward-looking research and technology tie-ups.		
Technology Development	Benchmark existing level of technology (as identified above) with Indian and global competitors to understand technology gaps.	Identify areas of technical innovation that can be obtained from alliances or possible M&A deals (typically new or forward-looking areas). Create action plans with timelines and responsibilities.	
	Create a monitoring mechanism for all action steps identified. Periodically assess which receive direct attention from the Promoter and top management.		
	Set an internal target to introduce at least 1 technological change within a year.	Set internal targets for the relevant CXOs to introduce 2 to 3 technological changes within a year.	Consider setting up a separate IPR cell to monitor patents and explore creating IPR.
	Identify a method and process to regularly monitor technology in use and identify actions to increase use.		
Strategic Planning	Upgrade planning cell skills as needed to ensure that it can provide inputs into all areas described in Market Focus--such as diversification and competitive differentiation. Consider external hiring, if required.		If this does not already exist, create a separate role of Chief Strategy Officer.
	Involve strategic planning team in annual planning sessions.		
	Have strategic planning team conduct quarterly strategy implementation reviews with different stakeholders.		
Data Analytics	Develop expertise within the company to analyze data available for decision making with a focus on real-time decision making. Invest in simple, low-cost data analytics tools as required.		
	Tie in data analytics teams with teams focusing on operational excellence. Have the operational excellence lead provide inputs and direction on the type of analytics needed.		
			Explore use of IT systems for data analytics of market facing data for forecasting - Explore pursuing such an initiative in conjunction with the OEM

Performance culture

To develop and exploit the distinctive and hard-to-replicate capabilities that can lead to success, leading auto-component suppliers establish the right culture – one centered on performance. They apply four practices to build such a culture: reconsider the promoter role, develop a leadership pipeline, encourage open innovation and create a best-in-class operating environment. (See Figure 41.)

Reconsider the promoter role

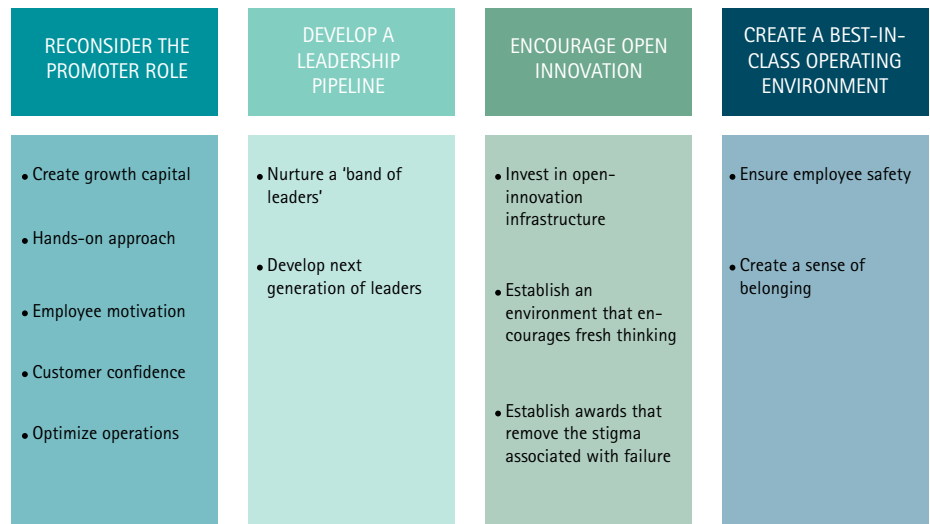
The auto-component industry in India has advanced on the back of an entrepreneurial culture, wherein promoters have actively shaped companies' growth. With family-owned businesses continuing to dominate the industry landscape, the role of the promoter will remain significant in this industry.

In a VUCA environment, promoters will need to redefine some of their responsibilities. For example, promoters at some of the largest and most successful auto-component manufacturers have consciously disengaged from day-to-day operations to focus more on defining the company's strategic growth path for the next decade. They have also helped make other strategic decisions involving growth, M&A, capital structure, stock exchange listings, and use of unconventional funding sources like private equity and legal structuring of multiple companies within the group.

This is not to say that promoters can no longer roll up their sleeves and take a hands-on approach to daily operations. In smaller companies, promoters must be seen as leading their organizations from the front. They need to make it to the shop floor often, mix with employees across operations and play an active role in designing solutions along with senior and middle management.

With shortage of skilled labour, motivating, growing and retaining skilled talent is going to be extremely important to prosper in a VUCA environment. As mentioned by a CMD of high performing entity, "if the person behind the machine is not motivated and energetic, the industry will never be able to achieve global quality and productivity standards". While providing the right kind of perks, recognition, rewards are all steps in the right direction, which many in the industry are taking, experts believe that these are not enough. "Employees need to feel that they are important to the growth of the firm. They need to be a part of consultations on key HR and production policy issues, they need to be integrated into the innovation journey of the company

Figure 41: Four performance-culture practices



centrally", is what an expert had to recommend.

In a VUCA environment, when markets become volatile and uncertain, the promoter needs to walk the extra mile to work with their customers. They need to personally attend to their OEM-clientele and quickly grasp their pain points. Promoters need to institutionalize mechanisms and instill organization wide culture which can help their management and operations team translate the knowledge of such pain-points into actual outcomes delivered to the client. E.g. a customized mobile-based application can be developed facilitating such sharing of information and feedback on a real-time basis across relevant management, engineering, design and production teams.

The business shocks emanating from a VUCA environment creates challenging situations wherein top managements of auto-component manufacturers at times equate optimization of operations to shrinking its overall size. In such situations, the promoter needs to assume a position of a mentor who can work closely with management and operations staff to stave them off from taking on knee-jerk decisions on production shifts, labour retrenchment etc. As mentioned by one of the promoters of a tier-2 auto-component manufacturer, "it is very easy to fall prey to pressure in such an environment. We need to keep a cool head and patiently arrive at decisions".

Develop a leadership pipeline

To survive and thrive, the most effective auto-component manufacturers develop a strong leadership pipeline. They nurture a "band of leaders" across the organization who can spur innovation, promote collaboration and create the right kind of workplace culture.

They also identify the individuals who contribute the most to the company's growth, and then invest in their professional development. In addition, they work to coach the next generation of leaders. To this end, large companies with professional management practices have established corporate universities that provide coaching for up-and-coming leaders. Savvy auto-component manufacturers in India are benefiting by taking a page from these companies' books. And by sending the signal that leaders are willing to develop up-and-coming talent, these companies can better attract skilled employees—which has been a daunting challenge facing the industry.

A large auto-component manufacturer in India has committed to this effort. To illustrate, it has begun including management trainees in board meetings. During these meetings, trainees can listen in on discussions and learn how decisions are made in the organization. This makes them feel valued by the organization—a key element in employee engagement. And when the time comes for them to enter the leadership ranks, they are better informed about how to present ideas to their peers and arrive at solutions to problems.

Encourage open innovation

High-performing auto-component manufacturers invest in open-innovation infrastructure that can help them deliver market-driven new offerings efficiently. In an increasingly open and networked business environment, such infrastructure will comprise in-house innovation teams as well as key customers and suppliers.

Senior managers in such companies encourage open innovation by “democratizing innovation”—including giving employees the freedom to generate and experiment with new ideas. Through this approach, they engage the talented, entrepreneurial minds embodied in their shop-floor workforce. To inspire employees to contribute their ideas, managers establish an environment that encourages fresh thinking that can spur innovation. One large automotive OEM has done this by including shop-floor technicians and associates in Kaizen initiatives. The company also provides middle-management executives with physical and virtual space as well as a budget to share innovative ideas. As novel, raw ideas come into sharper focus, the company allocates a mentor to each team to help push the idea through the challenging implementation process. Teams with promising ideas are given an audience with top management at regular intervals.^{xviii}

Successful companies across tiers may also establish awards that remove the stigma associated with failure. For example, the largest Indian conglomerate organizes an annual “Innovista” competition to spur innovation among its far-flung subsidiaries. The competition invites entries from teams across the group. These entries are then evaluated against criteria including novelty as well as environmental, financial and social impact. While three winning entries walk away with the “Promising Innovation Award,” two entries get the “Dare to Try Award” – given to those who came up with ideas that were ambitious even if they failed.

Create a best-in-class operating environment

A best-in-class operating environment helps to reduce operating costs, enhance asset productivity and yield better returns on capital investments. Perhaps even more important, it inspires confidence and a sense of belonging on the shop floor.

Consider workplace safety, always an imperative in manufacturing companies and a key requirement in business overall today. Progressive auto-component manufacturers weave safety into every aspect of the manufacturing process and support it with the right technology and training tailored to shop-floor workers coming from different backgrounds.

Creating a sense of belonging within the workforce and the families towards the firm and more importantly towards pursuing jobs in the manufacturing sector is critical to motivate, retain and attract workforce. High performers in the auto-component sector have some very interesting practices

to share. One of the high performers, not only takes care of the education of the shop-floor workers in the firm, but provides special allowances to parents raising girl children. This company organizes visits of children of their staff and of students from nearby schools to their factory to help them understand the hard work that goes into production of some of the most important parts of the vehicles they use every day. During these interactions, children are encouraged to have a one-on-one chat with employees to understand their work. Not only does this boost the respect for shop-floor employees in eyes of their own children, it also exposes the younger generation to “real manufacturing”.

In this section, a few important illustrative action items have been provided to help auto-component companies operationalize the first building block – Performance culture.

Common mindsets relating to culture, leadership and workplace

Immediate Term to Short Term (upto 1 year)

Building Block	Small	Medium	Large
Role of Promoter	List all areas that the Promoter is currently involved in, along with the type of decisions that get escalated to him/her.		Promoter defines a point of view on what areas of the business he/she wants to be directly involved in and at what level of involvement.
Professional Management & Leadership Pipeline	Identify top 3 operational and functional areas key to the business. Promoter independently evaluates competency of existing heads.		Promoter and HR evaluate competency of existing department heads.
	Promoter assesses areas in which he/she needs to develop skills and expertise.	Identify functional/operational areas which are currently directly driven by Promoter family members or predominantly taken by or significantly influenced by them.	
Innovation Culture	Articulate and widely communicate company's intent to encourage innovation by involving employees. Back up with actions such as holding small-group meetings, creating forums and time for people to generate and exchange ideas, and providing incentives for coming up with ideas.		
	Have line managers and supervisors implement communication, ideation and implementation of ideas. Get external help for facilitations needed.	In addition to using line managers and supervisors, introduce functional leads and key managers as innovative facilitators by organizing workshops, off-sites and visits to innovative companies.	In addition to using line managers, supervisors and functional heads as experts and visiting innovative companies, explore use of new companywide social media tools to facilitate interaction and communication.
	Create a positive buzz in the company by widely communicating success stories, fostering talks by senior leaders and encouraging visits from dignitaries who have "walked the talk.". Also showcase failures to illustrate the fact that low-cost experimentation is encouraged, even if it does not result in business benefits.		

Immediate Term (3m)

Building Block	Small	Medium	Large
Role of Promoter	Promoter forms a view about the type of decisions that should be taken at his/her level. Typically these include investments and customer relations. Promoter keeps in mind additional decisions related to issues such as competence of (X-1) layer and business challenges.		Ensure that decision-right changes and areas in which Promoter input is required are reflected in organizational structure, operational review forums and delegation of authority documents.
Professional Management & Leadership Pipeline	Promoter to get support in the areas he needs to provide operational leadership in (internal or external)		
	Identify competency gaps observed at the (CxO-1) level to be taken up for action. Create a time-phased recruitment plan. Give adequate weight to OEM/Tier 1 ex-employees.	Extend competency assessment for existing and expected roles to (CxO-2) layer in critical departments/functions.	
	Promoter creates high-level decision -rights matrix and gets input on it from (X-1) layer.	Create succession plans for (CxO-1) layer and key (CxO-2) roles.	
Innovation Culture	Top management decides management "flex" required for special projects identified as part of Market Focus and Competitive Differentiation.		
	Give employees time and budget for innovation, including exchange and development of ideas. Establish checks and balances to ensure that resources are well spent.		
	Tie up with academia, OEMs associations to introduce experts and fresh thinking into existing set-up.	Leverage technology partners, machine -tools manufacturers, academia, OEMs, associations and research agencies for expertise and introduction of fresh ideas.	Create an Innovation Center of Excellence with multiple areas of expertise pertinent to the organization.
	Approach OEMs and tier 1s for joint innovation projects.	Explore open innovation by involving suppliers, OEMs and consumers. Launch collaborative initiatives with ecosystem members.	

Chapter 8: Creating an enabling environment

The Indian auto-component industry has come a long way since its humble beginnings in the 1960s. High Performance Business analysis (in Chapter six) shows that the industry has world-class players not only in a particular segment or in a single tier, but across several segments and the three tiers. The industry has a global clientele, and many players have gradually acquired sole-supplier status with a number of the global OEM brands.

To achieve goals outlined in its VISION 2020 in a VUCA environment, auto-component manufacturers across the three tiers will need to transform themselves into high performance businesses. Strategies and actions towards achieving this goal have already been discussed in great detail in the earlier chapter (Chapter seven).

This chapter provides concrete actions, OEMs, ACMA and the Government of India can take to create a supportive and symbiotic ecosystem to enable auto-component industry move faster and scalably on the path of high performance.

All stakeholders in the ecosystem, especially automotive OEMs and the government, stand to gain tremendously by helping to build such an environment for the auto-components industry. For example, the automobile industry will benefit, because it will be in a better position to compete in the Indian and other global markets with proven partners. And if the industry can achieve higher growth and larger revenues, the government can bring in more revenue. But more than that, the innovation and job creation spurred by growth in the auto-component industry will help government achieve its goals of generating employment and positioning India as an attractive, technology-friendly destination for investors.

Recommendations for OEMs

Automotive OEMs seeking to build mutually beneficial partnerships with auto-component manufacturers can begin the journey by establishing themselves as trusted business advisors. OEMs will need to understand why suppliers are not in a position to heighten technology and knowledge intensity within their operations. And if required, OEMs will need to close the gaps through sharing resources.

The following recommendations could help OEMs do this:

Graduate from a transactional relationship to a collaborative and symbiotic one

In a volatile business environment, auto-component manufacturers become increasingly dependent on a few OEMs. But instead of dropping vendors during tough times, OEMs can strengthen relationships with them. For example, an engine manufacturer recently lent its own machines to its tier-2 vendors and trained the vendors' workers to operate the machines. In collaboration with vendors, it worked out a piece-purchase rate that also helped its suppliers understand the margin they were going to make per piece rather than at the end of an order. Vendors were therefore indirectly incentivized to achieve better margins by boosting their shop-floor productivity.

Moreover, top leadership teams in OEMs can focus on ensuring that this vision of collaboration and symbiotic growth percolates down through the entire system. Only then will managers who are procuring products from auto-component manufacturers see value in a collaborative approach and resist the urge to pressure component suppliers on price.

Some high-performing OEMs have established supplier councils with this vision in mind. Their CEOs make it a point to write to their auto-component suppliers once a month to foster a sense of direct connection.

Mentor component manufacturers

To build sustainable relationships with auto-component manufacturers and support one another's success, OEMs would do well to mentor their suppliers. For example, they can guide suppliers on best practices that exist around the world. This will ultimately benefit the OEMs, because suppliers will improve their product quality and operational efficiency.

OEMs can also help auto-component manufacturers build their scenario planning capabilities. In addition, they can open up their international partnerships to component manufacturers, which can deepen and broaden suppliers' knowledge as well as win them additional business.

Finally, OEMs also need to guide auto-component manufacturers in enhancing quality and productivity of their tier-2 and

tier-3 suppliers. Such efforts will strengthen the entire value chain, which will in turn benefit all players, including OEMs.

Co-develop with auto-component manufacturers

OEMs can further help create an enabling environment by helping component manufacturers reduce their costs; for example, by sharing practices with component manufacturers in the area of waste reduction, recycling of waste etc. Through these efforts, OEMs may position themselves to negotiate more favorable prices with their suppliers. However, when taking part in such 'cost-down' programs, OEMs must be willing to share both cost savings and risks with component manufacturers.

OEMs can also work with auto-component manufacturers to cultivate the aftermarket and help them grow their service businesses, both in India and outside.

Support auto-component manufacturers with simple measures

OEMs need to be cognizant of the challenges posed by the VUCA environment and support auto-component manufacturers with basic measures to ensure smooth operations.

Accurate and timely short-term demand estimates from OEMs go a long way in helping component manufacturers plan their operations more efficiently. Moreover, OEMs can also provide realistic medium- to long-term projections for capacity investment planning.

One of the biggest challenges that auto-component manufacturers face during any downturn is a cash crunch. OEMs can help suppliers manage this challenge by making timely payments and by recommending workable measures to manage cash flows.

Recommendations for ACMA

ACMA has been actively involved in liaising with OEMs as well as the Indian Government for the benefit of the auto-component manufacturing industry. The organization has also undertaken several skilling initiatives for component manufacturers.

However, ACMA can elevate its role to an even more valuable level by educating and guiding its members on the lessons suggested by HPB analysis. The following practices can help.

Explain the High Performance Business Framework to member companies

ACMA can educate its member companies on how to become high performance businesses by facilitating interaction with high performers across various regions and tiers. This will not only provide member companies with valuable direction but also encourage them to learn from peer companies that are performing well even in the current VUCA environment.

Develop a self-diagnostic tool for member companies

ACMA can develop a diagnostic tool based on the HPB analysis in this report. Member companies can use the tool to assess the effectiveness of their own operations and identify and address areas that could benefit from improvement.

Help member companies decide on a course of action

After educating member companies on the HPB framework and developing an HPB self-assessment tool for member companies, ACMA—with the support of high performers—can guide member companies as they select a course of action for sharpening their market focus and position, building distinctive capabilities and establishing a performance culture.

Recommendations for the Government

Governments in developed economies such as Germany and the US, as well as in developing economies such as China, view their countries' automotive industry as a national strategic asset. This is in part because they recognize the industry as critical for creating jobs. They also

consider it a fertile ground for promoting the knowledge, technology and innovation needed to secure the future of metallurgy and machinery – which together form the bedrock of manufacturing economies. As a result, such Governments have shored up their automotive industries in the aftermath of the global recession by providing them with timely and consistent financial and regulatory support.

Taking a page from the books of such countries, the Indian Government can accord strategic-industry status to the automotive industry under its National Manufacturing Policy 2011. In so doing, it can help the industry unlock its true business and knowledge potential in a competitive, cost-effective and sustained manner. The following actions merit consideration:

Kurzarbeit: Germany's work-sharing program

Context

The global financial crisis of 2007/08 hit Germany hard. During 2009, Germany, Europe's largest economy contracted by 4.7%. Astonishingly, the economy recorded its strongest post-unification growth at the end of 2010. What was even more astonishing was that in January 2011, Germany clocked an unemployment rate of 7.5%, lowest since April 1992.⁷

Germany avoided the significant increase in unemployment rates that the United States and many other countries experienced. The U.S. unemployment rate jumped from 5% beginning 2008 to 9% at the beginning of 2011.⁸ In the UK, unemployment rate climbed from 5.5% to 7.9% during the period 2008 to 2010.⁹

This note examines the German Kurzarbeit program which is said to have helped the nation clock such high employment numbers in the midst of one of the worst global post-war downturns.

About the Kurzarbeit Program

Kurzarbeit, meaning "short work," is a Government program that allows workers facing reduced hours due to temporary instances of decreased demand to keep their jobs and receive Government funds to partially supplement their diminished income. Used in Germany during the Weimar Republic, work sharing spread across many industrial countries following World War II.¹⁰

Work sharing is an expansive term that refers to any arrangement under which a firm chooses to reduce work hours for many or all workers instead of permanently laying off a fewer workers.¹¹

In mid-2009, over 1.4 million workers and 63,000 employers participated in the program. This program cost the German Government an estimated €5 billion, but saved more than 200,000 jobs by the latter half of 2009.¹²

Employers can only benefit from Kurzarbeit in circumstances involving unavoidable economic distress. The decrease in work must be temporary. Under Kurzarbeit, employees working reduced hours receive a "short-time allowance" of 60% of their former full-time wages, or 67% if they have a child. Workers receive the short-time allowance from their employers. In turn, the employers submit monthly accounts to the Government and are reimbursed for the funds paid in excess of the workers'

Figure 42: Automotive industry has been a major beneficiary of the Kurzarbeit program in Germany

Manufacture of	Number of short-time workers	Reducing working time per short time worker (%)
Motor vehicles and trailers	223,509	7.4
Machinery and equipment	222,391	6.6
Fabricated metal products	181,421	6.6
Basic metals	120,887	9.0
Electrical equipment	81,337	5.7
Basic chemicals	40,567	2.7
Textiles	16,816	5.1

Source: Brenke, K. (2011); "Short-time work: The German Answer to a Great Recession"; IZA Discussion Paper series; IZA DP. No. 5780; June

¹³Op. cit. 31

¹⁴Op. cit. 31

net hourly compensation. Vacation and holiday pay, however, remain the employers' responsibility. Employers must also make social insurance contributions, although provisions limited the contributions for lost hours to 80% of normal contribution payments. The Government does, however, reimburse the employer for half of these payments during the first six months, and after six months, the Government is responsible for the full amount of social insurance contributions.¹³

To enroll, the employer or works council must notify the local employment agency that the wages of a minimum of one-third of workers would be reduced by more than ten percent for an estimated time period. The local employment agency, and the employer's own workers, must approve the program. If the business has a works council—a non-union body that employees may establish at companies that satisfy certain criteria—that council can provide employee consent. If there are no works councils and no union agreements applicable to short time work, the employer must obtain approvals from all employees participating in this program.¹⁴

Kurzarbeit and Automotive Industry

As seen in Figure 42, by second quarter of 2009, more than 200,000 workers in the motor vehicles and trailers industry had benefited under this program. Tyre manufacturers such as Continental introduced short-time working at the majority of its 50 German factories, affecting 50,000 employees from February 2009.

The German automotive industry is globally recognized as the innovation powerhouse across the automotive value chain. Talent acquisition and retention therefore becomes a strategic growth imperative for the automotive industry in Germany. Even the Governments at various levels within Germany recognize this. In the period of extreme volatility, complexity and ambiguity, administrations across levels, consciously eliminated bureaucracy and took decisive steps to implement the Kurzarbeit program. The net beneficiary has been the industry and the workforce. It has been able to retain talent and engage them productively during one of the challenging economic times in post-World War history.

More importantly, by taking such prudential measures, German Government has also signaled its intent to continue its unstinting support to the automotive and fabricated metals industry two industries that have historically been critical to create a strong manufacturing edifice across nations.

⁷Guardian (2011); "Germany enjoys strongest growth since reunification"; downloadable at: <http://www.theguardian.com/world/2011/jan/12/germany-enjoys-economic-growth-spurt>; and accessed on August 12, 2013

⁸US unemployment rate per year"; downloadable at: <http://www.multpl.com/unemployment/table> and accessed on August 12, 2013

⁹United Kingdom Unemployment Rate"; downloadable at: http://www.indexmundi.com/united_kingdom/unemployment_rate.html and accessed on August 12, 2013

¹⁰Short-Time Work or "Kurzarbeit": Frequently Asked Questions, German Missions in the U.S.; downloadable at: <http://www.germany.info> and accessed on August 13, 2013

¹¹Felter, M. (2012); "Short-Time Compensation: Is Germany's Success with Kurzarbeit an Answer to US Unemployment"; Boston College International and Comparative Law Review; Article 5, Volume 35, Issue 2

¹²Crimmann, A. et al (2010); "The German work-sharing scheme: An instrument for the crisis"; Conditions of Work and Employment Series No. 25; International Labour Office; Geneva

Implement a goods and services tax

The Indian Government has already proposed replacing indirect taxes levied by the central and state Governments with a goods and services tax (GST). The auto-component industry is eager for a GST to be put in place that will eliminate the multiple, cascading levels of taxes now in effect.

While the auto-component industry would benefit from a GST, one of the biggest beneficiaries within the industry will be the products sold in the aftermarket. Implementation of the GST will help develop the aftermarket business, a key opportunity for the auto-component industry, in the following ways:

- Auto-component manufacturers will pay a GST based on the selling price to the aftermarket company instead of on final selling price. This will reduce manufacturers' working-capital requirement.
- Treating manufacturing and aftermarket activities as separate centers of profit will sharpen focus on both businesses and increase accountability within companies' various business functions.
- With the removal of excise duty on manufacturing under the proposed GST regime, the aftermarket's cash flows and inventory costs will improve.

Create a level playing field for domestic manufacturers

Auto-component industries in countries such as China enjoy priority industry status and hence benefit from a host of Government subsidies. According to the Economic Policy Institute (2012),^{xix} total subsidies provided to Chinese auto-part manufacturers in 2011 amounted to US\$7.2 billion. This translated to around 2.3 percent of total revenues garnered from sales of auto-components originating from China.^{xx}

Chinese auto-components imported by India under a zero-duty regime would out-compete domestic Indian components by a margin of 5.48 percent. (See Figure 43.) The Government will want to consider this when deciding on duty concessions for auto-components during trade-agreement negotiations.

Figure 43: Indian auto-components lose competitiveness against duty-free Chinese imports

	China	India
Total cost of production of an auto-component ---(A)	97.7*	100
Value of the Chinese product to be exported---(B)	99.36**	
The hit the Chinese exporter can afford to take on the actual export price---(C)	4.24 [#]	
Value at which the auto-component can be exported in to India	95.12**	
Value of the Chinese auto-component sold in the Indian market imported at zero duty	109.13 ^o	
Value of the auto-component manufactured in India sold in the Indian market		114.61 [^]
Competitive deficit suffered by the Indian auto-component	5.48%	

* 2.3 percent subsidy enjoyed during the production stage

** Price calculated incorporates impact of refunded VAT at 17 percent, construction tax at 7 percent and local education tax at 3 percent.

[#] 4.24 is the PBIT margin that the Chinese exporter enjoys even at an ROE of 20 percent. (See Figure 44.)

** (B) minus (C)

^o Incorporates impact of all duties and taxes levied on the imported product except the margin that may be charged by the selling company in the market; the assumption here is that the sale of the product is interstate.

[^] Incorporates impact of all domestic taxes levied, assuming that the item is being sold on an interstate sales basis.

Additional assumptions: the calculation does not factor in exchange-rate movements. The auto-component being manufactured in China and India has the same total cost of production before the impact of the subsidy is calculated as under (A).

Remove inverted duty structures and involve industry in trade negotiations

Inverted duty structures hamstringing Indian auto-component manufacturers' ability to execute their strategies for competitive differentiation. India eliminated import duties on a range of auto-components under the Early Harvest Scheme of the Framework Agreement establishing the FTA between India and Thailand. Unfortunately, varieties of steel and aluminum alloys that are raw materials for auto-components are still excluded from the agreement. The Government also missed out on opportunities to create a level playing field for the auto-components industry by including these key raw materials and others in duty-reduction lists in successive agreements signed with countries such as Japan, South Korea and Chile, as well as regional trading blocs such as MERCOSUR (Argentina, Brazil, Paraguay, Uruguay and Venezuela).

As a result, steel and aluminum alloys, which account for 60 percent of raw-materials costs in the auto-component industry, continue to attract higher or similar duty, as compared to auto-

components manufactured using these materials. Domestic raw-materials suppliers use the higher landed price of imported materials in the absence of duty benefits to elevate the prices they charge auto-parts makers for steel and aluminum alloys. Consequently, parts suppliers' price competitiveness suffers.

The Government needs to address this concern. To avoid such situations in the future, the government can emulate processes and measures similar to the ones it has successfully executed to address the problems of inverted excise duties.

Continue to incentivize R&D

Technology R&D and innovation are critical for international competitiveness not only for India's auto-component industry but also for manufacturing as a whole. The Indian Government acknowledged this in its National Manufacturing Policy 2011, the Automotive Mission Plan 2006-2016 and the National Automotive Testing and R&D and Infrastructure Project (NATRiP). Indeed, the NMP identified technology R&D as a cross-sectoral priority.

Innovation clusters have proven valuable for driving technology R&D for automotive giants around the world. Recognizing the value of this approach, the National Innovation Council has facilitated creation of the Faridabad Auto-Component Innovation Cluster.

India's Government, in collaboration with the industry, would greatly contribute to the creation of an enabling environment by facilitating creation of more such clusters. For example, it could consolidate benefits under the NMP, the NATRiP and other operational schemes to design one package of incentives that rewards collaboration across various stakeholders in automotive innovation clusters.

The scale at which technology gets embedded on the shop floor of auto-component manufacturers will be an important driver of firm-level operational excellence. Therefore, the Indian Government needs to provide incentives such as abolition of taxes/duties on procurement/import of "know-how." This would facilitate scalable absorption of R&D and technology in the industry.

Support the domestic machine tool industry

In any nation, the machine tool industry is the backbone of the auto-component industry. Governments in countries such as China, Germany and the US—which have strong automobile industries—have made a conscious effort to preserve their machine tool industries even during tough economic times. (See the example "Kurzarbeit: Germany's work-sharing program.") Taking a page from the German example, the Indian Government can take conscious steps to protect the long-term competitiveness of its domestic machine tool industry. To do so, it will need to get on board with the industry's long-term interest while forging favorable trade agreements. In addition, the inverted duty structure currently plaguing the machine tool industry must be immediately corrected.

Help the industry develop needed talent

In its National Manufacturing Policy 2011, the Indian Government acknowledged the need to create more specialized institutes of training for industries such as automotive. However, more is needed to create a talent pool across all levels of the industry. For example, the auto-component industry is currently starving for motivated and productive engineers and managers. To create a large pool of such individuals, the Government, in collaboration with industry, can allocate a fixed number of

seats in publicly funded engineering colleges toward training engineers specializing in manufacturing.

In a downturn, the tier-2 and tier-3 auto-component manufacturers find it more difficult to retain their shop floor employees. As a result, they lose institutionalized skills and cannot take advantage of the opportunities that emerge when the economy begins to revive. The Government, in consultation with industry, can develop a formula for integrating a certain percentage of shop floor workers from tier-2 and tier-3 auto-component and similar industries under the MNREGA program in certain VUCA circumstances.

Reform labour markets

To give the new NMP traction, the Indian Government will have to liberalize the nation's labor markets. For this to happen, Government agencies, industry representatives and leaders from major unions must better understand each other's concerns. The Government can facilitate this process; for example, by helping union leaders understand that flexibility in the movement of labor (through necessary amendments in legislation such as the Industrial Disputes Act, Contract Labour Act and Factories Act) is in their interest as well as management's interest—because it creates jobs and makes more talent available to industry.

Reduce cost of capital

Cost of capital is proving to be one of the biggest hurdles for India's auto-component industry to invest in R&D, which is essential for becoming a high performer. "With no assured returns, investing in R&D by borrowing at 12 percent per annum is not feasible," said an executive from a tier-1 auto-component manufacturer.

Moreover, higher interest rates erode Indian manufacturers' pricing power—putting them at a disadvantage compared to their counterparts from countries such as China. (See Figure 44.) The Government, in consultation with the Reserve Bank of India (RBI), can take immediate steps to reduce the cost of capital for the auto-component industry.

While market forces and inflation will continue to affect the overall lending rate, the RBI can define a separate set of preferential rates to satisfy the industry's working-capital requirements. In consultation with industry, the RBI can decide on a new set of variables for determining working-capital interest rates. For example, in the UK, changes in the interest rate are no longer defined only by inflation but by the unemployment target the Government wants to achieve.

Figure 44: High capital costs erode Indian companies' pricing power

	India	China
Total capital employed	100	100
Debt to equity ratio	1.5 : 1	3 : 1
Debt	60	75
Equity	40	25
Benchmark lending rate	10.25%	6.55%
Interest payment	6.15	4.91
ROE @ 20% (assumption)	8	5
Hence PBIT needed to cover (interest payment and ROE)	14.15	9.91

Sources: Interviews with industry experts and Accenture calculations.

Conclusion



The tide has turned for the auto-component industry in India. Many component manufacturers now count among the leading international players, and foreign OEMs are finding India a more attractive place to manufacture and collaborate with suppliers.

Organizations that are bold enough to experiment within strategies for succeeding in the VUCA business environment—and that are committed to building the required capabilities—will continue to gain a considerable advantage in the years to come. These companies will be in a position to achieve competitive differentiation and to gain a foothold in markets with the best growth potential.

Moreover, companies that embark on this path will create value not only for themselves but also for the industry. In addition, they will help build a nation of skilled engineers, technicians and business leaders, directly supporting India's goal of inclusive growth.

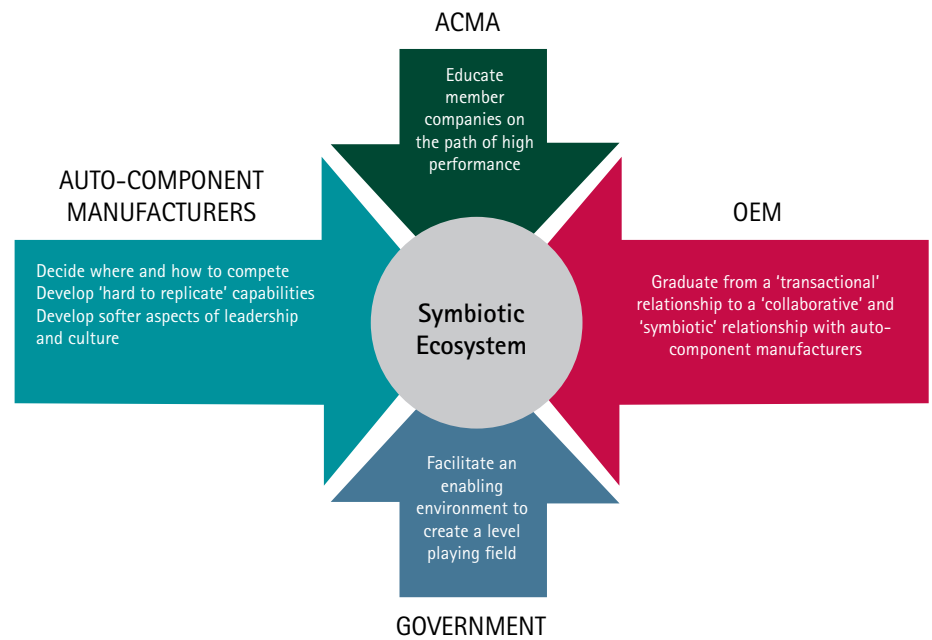
Auto-component suppliers in India that achieve high performance will also benefit the wider Indian economy, because a more competitive industry can further drive inclusive growth. India's tier-2 and tier-3 manufacturers employ huge numbers of low-income and geographically remote populations. Tier-1 suppliers that can foster growth in these lower tiers by achieving high performance will play a major role in helping India fully realize its inclusive-growth agenda.

But to do all this, auto-component manufacturers will need to create the right organizational culture and adopt a new mindset focused on achieving excellence in manufacturing, while also increasing their scale and extending their reach.

Instead of seeing VUCA as a threat, they need to now perceive it as an opportunity – to weave a better vision; to better understand the industrial environment; to become more customer-centric; and to grow more agile.

But unleashing new growth opportunities requires commitment from all stakeholders in the automotive ecosystem, including OEMs, players in the auto-component and machine tool industries, and India's Government. The ecosystem in which they operate is a symbiotic one, comprising relationships of both mutual benefit and dependence. By helping one another to enhance their performance on multiple fronts, each party can play a role in strengthening the ecosystem overall—and reap valuable benefits for themselves as well.

Figure 45: Symbiotic ecosystem



High Performers

Example 1: Serial diversifier

Example 2: Technopreneur

Example 3: Innovation operator

Example 4: Passionate pragmatist with an eye on the future

Example 5: Aftermarket champion

Example 6: Next generation collaborators

Example 1: Serial diversifier

About the company

Founded in 1986, the said company located in Pune has evolved to be the largest manufacturer of engine valve collets and rocker arm screws in India. It is also a largest manufacturer of turbocharger parts in India. In addition, the company is the leading supplier of fuel system parts and assemblies and fluid power assemblies.

The company operates 5 manufacturing units in Pune and Belgaum. It is certified for TS 16949 and ISO 14000.

The growth story

The company started its operations with the manufacture and supply of engine valve collets to the Indian original equipment manufacturers, imported by OEMs earlier. The company is the only one in India to hold a process patent to manufacture these parts in India. It is a preferred supplier of precision machined components & assemblies to the automotive & turbocharger industry.

The company has evolved into a state-of-the-art diversified manufacturer and "preferred supplier", capable of developing, designing and producing complex and high precision products.

Supported by a diversified portfolio of products, the company serves a diverse base of customers on domestic as well as foreign soil. Domestic customers include large OEMs and industrial equipment manufacturers such as Ashok Leyland, Bajaj, BEML, Bosch, Continental Engines, Escorts, Fiat, Force Motors, Gentilini Power Train, Gnutti Carlo, Greaves, HMT, Honda, Honeywell, Yamaha, Indo Farm Industries Ltd, Interstate Mc-Bee, John Deere, Kirloskar, LML, Lombardini, Mahindra, Maruti Suzuki, Shriram Piston & Rings, Swaraj Mazda and TVS. International customers include: Turbo Technologies, Fastenings, Rexroth Bosch Group,

Honeywell, BorgWamer Transmission Systems, and Turbo Energy Ltd. It is also a trusted vendor to Daimler Chrysler, Skoda, Holset Engineering, Bosch and Cummins Engine Inc

Key Differentiators and Leading Practices

Conscious diversification...

From its inception, the company has consciously focused on adopting an all-round diversification strategy, viz. that of: developing a diversified product folio; catering to a diverse customer base;

"Returns from diversification are realized in 5-6 years and not 6 months. One needs to be patient in diversification strategy."

– Chairman and Managing Director

and building presence across diverse geographies. (See Figure 46).

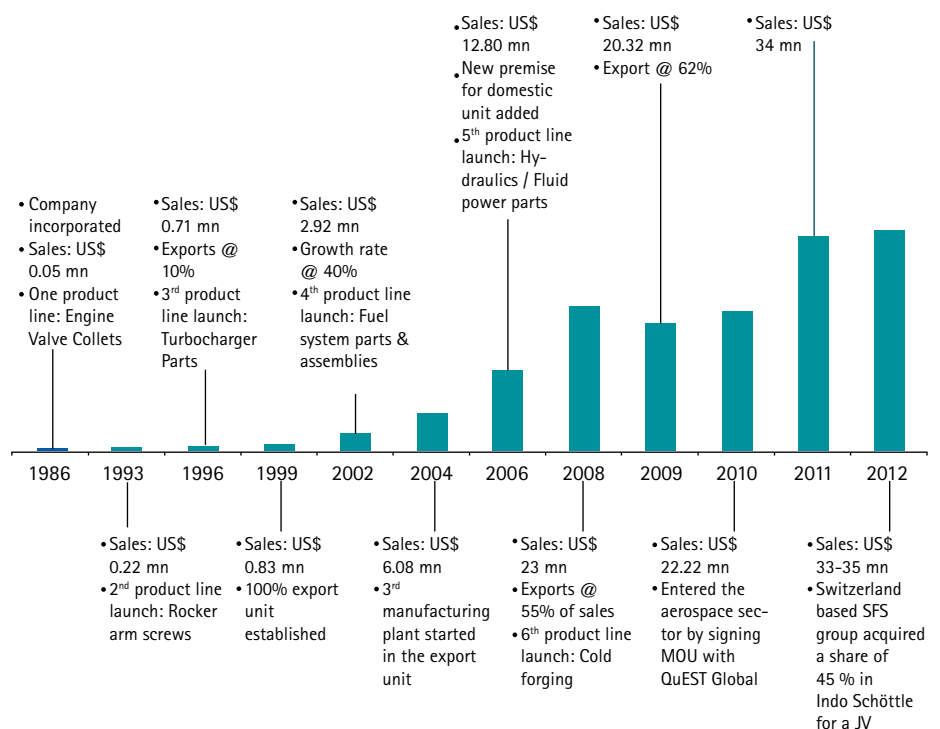
At present the company boasts of an annual installed capacity to manufacture 150 million engine valve collets with 40 million rocker arm screws; 50 million cold forged components; 4 million precision machined components, for turbocharger components and assemblies and fuel systems parts and assemblies and 1.5 million hydraulic components.

While the company caters to large OEMs in India, exports account for nearly sixty percent of their sales. While a strong domestic presence helps the company compensate for the weak global markets during weak global economic cycles, its continued presence in key export markets ensures that it is ready to reap dividends of a global upturn.

The company has customers across levels in the value chain as well as across geographies and across industries. OEMs, other auto-component manufacturers in India and abroad are part of the company's client base. In addition, the company also has customers in industrial equipment, farm equipment and turbo technology sectors across the globe.

Adoption of such a three-pronged diversification strategy has helped the company weather domestic as well as

Figure 46: Executing a three pronged diversification strategy



downturns and expand its sales at a scorching compounded annual growth rate of 23% during the last decade.

...built on the platform of state-of-the-art infrastructure and technology...

From day one, the company has invested in development of infrastructural set which now includes 5 manufacturing units, heat treatment facilities and well-equipped standard rooms with laboratory and testing facilities. Manufacturing units and quality departments across locations boasts of modern facilities required for lean manufacturing.

Since inception, the company has maintained a keen focus on being in a position to manufacture with the "best technology available". As a result of this unstinting focus on technology the company has been able to build design, process and manufacturing capabilities in high-precision products such as: fuel injection pumps, engine components and high performance components in the turbocharger space.

...supported by a focused talent management program...

The company provides a structured road map for employee growth and role enhancement. It provides technical and behavioral training to its employees and also provides them international exposure with visits to the customers and machine manufacturers.

The company prefers hiring all-rounders and senior leadership makes it a point to frequently mingle with employees on the shop floor and ensures propagating a culture of "friendship". As a result the company boasts of a record of zero labour issues.

The company has institutionalized the 'Gems' program. Under the umbrella of this program the company identifies 30 high performing 'Gems' from middle management ranks and from the workforce executing tasks on the shop floor. These 'Gems' are given special incentives, benefits and trainings.

...has helped it deliver consistent and scalable culture to deliver quality products

For the company, building quality into its processes, timely service in product

development and supply to customers and continuous improvement, are a way of life. The company has taken extra measures to train employees, partners and subcontractors to adopt the company's quality and continuous improvement policy in their day-to-day activities. It also uses statistical tools for tracking and problem solving.

"Second grade technology can never make first grade quality products. Hence, it is important to consistently invest in technology."

– Chairman and Managing Director

Financial outcome

As a result of building these capabilities and performance culture, the company has been able to grow its sales at a scorching pace of 26% during the last decade. The Earning per Share (EPS) of the company stands at Rs 38, higher than its counterparts by a factor of five.

Example 2: Technopreneur

About the company

Founded in 1991 at Gurgaon, the said company presently manufactures a wide range of products for OEM's. These include EGR Valves, Throttle Bodies, Vacuum Modulation Valves, Solenoid Valves, Actuators, Rollover Valves, Fuel Flap Opener, Trunk Lid Opener (not dickey) and Fuel Water Separator amongst others.

The growth story

The company started off by making horns and combination switches. In a span of five years, the company became a market leader in the horns business and attained the status of being one of the best manufacturers for horns across the globe.

Around 1998, the company took a disruptive step of walking out of the existing businesses to engage into manufacturing a suite of complementary products verticals. Such a strategy enhanced the ability of the company to engage its clients over a larger part of the value being delivered by the latter to its end customer. As a result, the company became a 'one stop shop' for OEMs. Moreover, such a product-offering strategy helped it spread its risk better.

The customer-list of the company includes Indian and foreign brands. These being Tata Motors, Force Motor, Escorts, Eicher, General Motors, Hindustan Motors, Hyundai, Mahindra & Mahindra, Maruti Suzuki, Honeywell, TVS, Piaggio, Greaves, and Lombardini amongst others.

In the first half of 2000, the company took a conscious decision to focus its energies on indigenously designing and developing emission and safety-related products. Till date it has not formed a JV with any other foreign player and does not intend to follow this route in the near to medium term.

Competing with the best in the world on engineering design, prototyping and final product development, the company has already become a 'preferred supplier' to Audi and is expecting more doors to open as a result being offer more value to customers at lower price points.

Key Differentiators and Leading Practices

Conscious and continued disruption...

The company continues to be a conscious and a serial disrupter when it comes to product strategy and customer segmentation. It chooses to manufacture those products wherein it sees an opportunity to add its indigenous technological value at competitive costs.

While the said company segments its customers like other companies an additional axis which it uses for the purpose of segmentation is "learning". For it, some businesses are meant to be made customers not necessarily to make money but more from the perspective of learning and mastering best-in-class processes and practices that can come in handy and build reputation.

"Build and be where the future lies"

– Managing Director

...built on the edifice of robust engineering and R&D ...

Of the workforce of about 150, more than 60 employees are engineers and are working on various aspects ranging from design & development to product testing. The engineering department is directly supervised by the Managing Director of the company. The annual investment in R&D at about 10% not only ranks significantly above most Indian suppliers, but matches or exceeds some of the global players too.

The infrastructure at the facility is fully capable of handling a project from the design & modeling phase right up to manufacturing the finished product. In order to increase its export volumes the company concurrently works on parallel technology platforms for the same category of products.

"R&D is not cheap, so be ready to put money in it. Do not compromise on R&D even in bad cycles"

– Managing Director

...supported by culture of fearless experimentation...

The company has consciously developed a culture to fearlessly experiment. The top management firmly believes in providing the space to its engineers to iterate and experiment. Hence they have freed their engineers from bureaucratic processes of securing a string of permissions before securing funds to experiment with designs upto a certain threshold.

In order to enable engineers to succeed, the company has evolved processes that help engineers define problems more clearly.

...and a unique leadership style

The Managing Director of the company is driven by values that are quite unique. For example, he values "disruptive change" over "incremental change" and is ready to assume the risk associated with implementing it. His focus is more on solving an "engineering problem troubling the industry" rather than "spending time on solving a cost-reduction problem".

As a result he has built a team of trustworthy "long-timers" who manage the day-to-day operations leaving him more time to focus on the bigger picture and the next disruptive move.

Moreover, the Managing Director believes in being frugal while using the resources of the company in spite of being the owner.

“How can I expect my staff to cut down on their travel and lodging and boarding costs if I fly business domestically and stay in costliest of hotels”

– Managing Director

Outcome

As a result of building these capabilities and performance culture, the company has been able to grow its sales at a scorching double digit speed during the last decade. More importantly, it has been able to earn the respect and admiration for its innovation and technological capabilities by the most respected brands in the automotive space.

Example 3: Innovation operator

About the company

Founded in 1961, this company provides the widest range of products which are used in passenger cars, utility vehicles, commercial vehicles and two-wheelers. The business has a turnover of about Rs 1,000 crore.

It operates seven manufacturing facilities spread across the country. The business commands 80 percent of the market for their products in the commercial-vehicle segment, 19 percent for the two-wheeler segment and 45 percent for the passenger-cars segment.

The growth story

The company began operations in 1961 with a single plant in Mulund, Mumbai. It has since expanded to seven manufacturing facilities and three R&D centers within India. In 2013, the enterprise also established an office in China.

With a highly trained workforce of more than 3,000, innovative products and best-in-class manufacturing facilities, the company has won a string of industry awards and accolades. It was recently listed in the 'India's Best Companies to Work For 2012' study conducted by The Economic Times and The Great Place to Work Institute, India. It was also recently awarded the Golden Peacock Eco-Innovation Award for the hollow-tube strut it developed for one of its premium passenger-car customers.

The organization supplies products to every vehicle manufacturer in India and is the only supplier in the Asia-Pacific region to offer the Dynachrome technology for chrome plating. In addition, it has established technical collaborations with leading Japanese companies. (See Figure 47.)

With its best-in-class product portfolio, the company serves to almost every automotive on Indian roads & also to Indian Railways. Its customer includes all major passenger car, utility vehicle, commercial vehicle & two wheeler manufacturers.

Key Differentiators and Leading Practices

A robust diversification strategy....

The company has developed a diversified portfolio in terms of geographies as well as customer segments. Diverse geographies have benefited export sales. In terms of customer segments, the business serves all segments in the automotive industry—two-wheelers, three-wheelers, passenger cars and trucks. In addition, the company serves Indian railways.

A strong presence in export and aftermarkets has helped the company survive and even thrive in the aftermath of the global downturn. Export sales have enabled the company to mitigate the risks associated with operating in only one or two countries. Meanwhile, launch of new products and deeper penetration into has led to robust growth in the aftermarkets. The organization also exports to aftermarkets in the Middle East and Asia-Pacific, which has further spurred growth in recent years.

Meanwhile, the enterprise is targeting aftermarkets that have similarities with India, such as Russia, the African continent and South America, because it expects better margins on its products in these markets.

"Although volumes are low, it makes sense to diversify into allied industries."

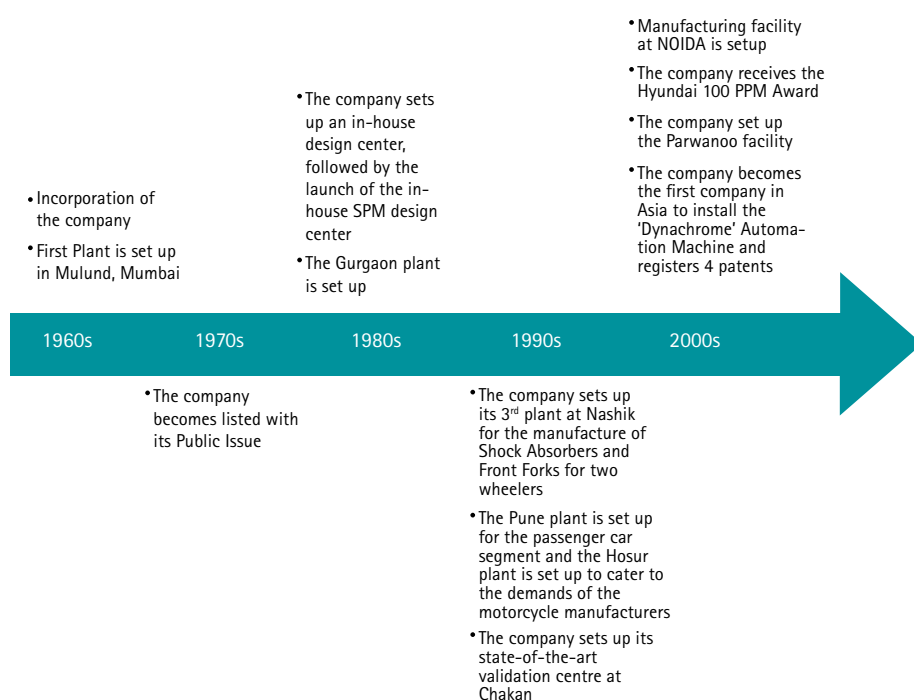
– Managing Director

...built on innovation and R&D for customers and self

The company has maintained a sharp focus on innovation and R&D. While its R&D function concentrates on product development and improvement, the company also strives for innovation in business processes. It has three well-equipped, state-of-the-art R&D centers located at Chakan, Hosur and Nashik to develop new products and carry out comprehensive testing and validation, with the aim of optimizing product performance and capability.

These facilities provide value-added services to customers in areas including noise measurement, value engineering, improvement of product quality through root-cause analysis of customer complaints and cost reduction through localization efforts.

Figure 47: An impressive growth trajectory



“There is a fine line between innovation and 'jugaad'. Jugaad is more short term while innovation provides long term benefits”

– Managing Director

To surmount the challenge of power supply and cost, the company put in place a system to generate energy from waste products, which it uses to heat water in the paint shop. This has helped the business substantially cut its power costs and become self-reliant.

...with a strong focus on accelerating to breakeven

The company works to continuously decrease time to the breakeven point for each product-development investment. Executives review all contributors to cost and rigorously analyze spend to craft plans for accelerating to breakeven.

Business outcomes

As a result of applying these leading practices, the company achieved sales CAGR of 28.5 percent during FY2009-FY2012—much higher than the industry average of 20 percent during the same period. Sales growth in FY2012 alone was 16 percent, while the industry average was 13 percent.

Example 4: Passionate pragmatists with an eye on the future

About the group-company

Incorporated in 1986 as a public limited company, this auto-component manufacturer has evolved into a group enterprise capable of harnessing convergence in the fields of manufacturing, digital engineering and robotics. With multiple footprints in the present and others planned for the future, this group-enterprise continues to harness the diverse expertise of its group companies toward manufacturing state-of-the-art products and providing cutting-edge engineering solutions and robotic services to clients.

The manufacturing arm of the larger group-enterprise produces transmission systems, engine components, driveline components, power take-off components and precision forging and machining components. This manufacturing company is one of the largest makers of transmission gears and shafts and engine gears in India and has integrated management systems including ISO TS 16949, ISO14001 and OHSAS 18001. Its key clients include Hero MotoCorp, Cummins Inc., Tata Cummins, JCB, New Holland Fiat (India) and Daimler.

The digital arm of the group enterprise excels in delivering services in areas such as industrial design, product design and engineering, engineering analysis and simulation, and digital documentation.

The robotics arm of this 'convergence-ready' group-enterprise works with state of the art technologies, possesses expertise in robotics and artificial intelligence, and develops solutions for industrial and military applications.

The growth story

'Passion | Innovation | Technology' are the three pillars at the foundation of this company's expanding growth canopy. To support this growth canopy, the promoters have systematically worked to put in place a strategy for strengthening these three pillars.

Take the 'technology' pillar. During the initial years of its operations, the company concentrated on developing competency for manufacturing transmission components for two-wheelers. Soon it entered into a technical tie-up with a Japanese company and carried out backward integration of precision near net forgings to cater to its captive requirement.

Quick to spot opportunities in the EU and the US in the 1990s, the company further enhanced its technical know-how and entered the US market by innovating its business model to achieve desired scale. This time, the promoters established a 100 percent export-oriented unit (EOU) for the production of timing gears for mid-range and heavy-duty engines.

Recognizing the value of having an in-house engineering and design facility, the company established a division in 1999 to provide high-end design and CAD services. This division has evolved into the digital arm of the group enterprise. It provides the flexibility to combine technology with new-age design to collaboratively develop high-end engineering products and solutions with OEMs.

Cognizant of the pressure that rapid scale puts on maintenance of quality, the top management focused on executing lean manufacturing techniques, establishing quality management systems and building best-in-class inspection and testing capabilities. The manufacturing arm gradually expanded its footprint, setting up state-of-the-art manufacturing facilities in Manesar and Bhivadi that were equipped with world-class inspection and testing capabilities.

In 2004, the company established a robotics arm, which enabled the group-entity to become a highly differentiated player in the market. The group-entity was now capable of offering OEMs an end-to-end innovative experience in the process of co-creating solutions.

At present, this group-enterprise has a comprehensive auto and non-auto-component portfolio and counts among the largest manufacturers of transmission and engine components in the country. The company exports about 30 percent of its components to major destinations including North America, South America and Europe.

"Engineering services and robotics make us VUCA proof."

– Managing Director

Key Differentiators and Leading Practices

A promoter-driven, growth-oriented strategy...

This company is one of the few examples in the auto-component industry where the first and second generations of promoters have developed a cogent, growth-oriented strategy facilitating accommodation of their individual passion for innovation and technology to create value for the group entity, its shareholders and clients.

...built on a resilient foundation of technology and innovation...

The promoters have swiftly capitalized on the structural shifts taking place in the automotive industry to develop definitive offerings. Recognizing that the automotive industry was becoming increasingly technology intensive, they understood that in the future, OEMs would want to work with suppliers that could provide them with "solution-embodied goods."

The management therefore continued investing in its digital arm, which developed complex value-added engineering applications, process automation and design optimization, and after-sales information management solutions.

Today, this arm, while servicing requests from the in-house manufacturing entity, has independent clients from the automotive as well as non-automotive sectors, such as industrial, medical and consumer durables. In fact, the majority of the arm's revenue now comes from services provided to external clients.

The robotics arm is also developing leading-edge robotics, computer/machine vision and artificial intelligence solutions, with an eye toward bringing in effective and efficient robotics for mass utility.

This first-of-its-kind initiative in the sector operates with best-in-class technology and has already applied for 14 patents, with one patent in its pocket.

Capabilities such as engineering services and robotics have helped the manufacturing arm provide value-added solutions and products to its clients, thereby acquiring a larger part of clients' total order book. Moreover, the digital and robotics arms have created a high-margin additional source of revenue, which continues to boost total earnings for the group-entity during tough economic times.

...operational excellence...

Operational excellence has given the company a competitive edge that has helped it combat the recession and win the confidence of its global customers.

Operational excellence in the manufacturing arm of the company is driven by the Lean and TPM initiatives for which the company has won several awards, including the prestigious Shingo Silver Medallion and TPM Award for Consistent TPM Commitment.

While executing initiatives in the sphere of operational excellence, top management ensures that employees at all levels understand why they are embracing the principles of operational excellence (know-why) rather than just seeing it as a set of tools (know-how) and systems (know-what) introduced to improve performance. Adoption of such an approach has helped create a culture of excellence throughout the company's workforce. This has improved employee engagement on the shop floor and has supported the launch of more creative solutions that help the company deliver cost-competitive products and solutions. Recently, the manufacturing arm set up the first "gold rated" green factory in Northern India, and the group-enterprise is setting up another facility with the same intent.

"It was a huge relief that we didn't owe money to anyone during the downturn. This has been our biggest strength in weathering the crisis."

– Chairman

...learning platforms...

Learning is embedded into the DNA of the group. While creating learning and knowledge platforms within the organization, the group has also demonstrated social commitment in this space.

In addition to technical collaborations, the company has forged partnerships with academic institutions and has signed a formal MoU with Carnegie Mellon University, a premier institution in robotics. Such collaborations help the group's robotics arm to stay abreast of the latest academic research in this area. The group has also established an industrial training institute to develop a pool of skilled talent for the industry at large. Moreover, the enterprise has invested in the Global Innovation & Technology Alliance (GITA), initiated by the Confederation of Indian Industry and the Department of Science & Technology, Government of India, in 2007-2008 to stimulate private-sector investment in R&D.

...value systems...

The company has consciously evolved unique processes and methods to inspire its employees. For example, it has established a 'culture room' where the company's journey is displayed in pictures. A structured orientation to the journey of the enterprise helps employees learn about the organization's roots, its humble beginnings and its core values. This place provides context and energy for everyone to become inspired and to live the company's deepest, most enduring and cherished values.

...and sound financial management

The company has carefully maintained its cash flow and capital. Leadership and management have consciously monitored the debt-to-equity ratio, keeping it as low as 0.3. (The industry average is 1-1.5.)

This has helped the group raise capital from the market and banks on preferential terms even during the most testing times in the aftermath of the global economic crisis.

Business outcomes

Through building such capabilities and adopting such a culture, the company has systematically differentiated itself from the competition and consistently entered markets with high margins. As a result, it has achieved a compound annual growth rate in sales of 15 percent during 2008-2012. And it boasts a healthy profit before tax (PBT) margin of 12.5 percent, much higher than the industry average.

"For excellence, we need to develop adaptability and resilience at the grass-root level."

– Managing Director

Example 5: Aftermarket champion

About the company

Incorporated in 1982, the company was then jointly promoted by the Promoter family and Gujarat Industrial Investment Corporation.

The company is a leading manufacturer of clutch products for the medium and heavy commercial vehicles in India and one of the largest in the world. In addition, the company manufactures clutch products for hydraulic products for construction equipment industry and precision engineering components like complex and deep drawn pressings, forgings and castings that are machined and heat treated. On the whole, the company offers products for commercial and military trucks, heavy-medium-light-duty trucks, marine, off-highway and agricultural equipment.

The company has its corporate headquarters in Mumbai and has 4 manufacturing facilities – two in India and one each in the UK and the US. While the company's facility in the UK is also the R&D hub for its clutch products, its facility in the US is the R&D hub for the hydraulics products. Both these R&D hubs provide technology to the company's facilities globally.

The company generated revenues worth Rs. 423 crore in FY 2012 on the back of robust sales to clients such as Tata Motors, Ashok Leyland, Volvo-Eicher Motors, AMW and Daimler India Commercial Vehicles. The company is certified for quality by Quality Management System Certifications such as TS 16949, ISO 14001 EMS and OHSAS 18001.

The growth story

In 1992-93, the company started supply of clutches for light commercial vehicles to Tata Motors. In the mid-1990s, the company commenced exports to UK and US.

In 2001-2002, company entered into technical collaboration with LIPE Clutch Division of Dana Corporation located in UK to manufacture clutches for new generation Indian commercial vehicles. These clutches were earlier imported. The company pioneered manufacture of clutches with Ceramic Friction lining in place of Organic friction lining.

In the same year, the company generated revenues of Rs. 15 crore which grew to Rs. 365 crore on standalone basis in India and Rs. 423 crore on consolidated basis in FY 2012.

The company continued to add new customers to its list through the decade and by 2008 the company became the largest manufacturer of clutches commanding 85 percent of Indian OE market, providing all India service network for its customers.

In 2005-2006, the company issued 14.7 percent fresh equity to a private equity firm and in the same year the Gujarat Government sold its shares to the Promoters. In the same year, the company acquired its technology collaborator in UK.

In 2006-2007, the company acquired US facility from a Swedish manufacturer to add to its array of clutch products. In 2008-2009, the company set up an assembly unit in Uttaranchal to cater to the aftermarket segment. In 2009-2010, the company commenced operations in its Press Shop at Kalol, Gujarat with a focus on developing clutches suitable to international vehicle manufacturers. At present, the company enjoys a leadership position in its field of operation in India and globally.

Key differentiators and leading practices

High-quality and innovative product development...

Since its inception, the company was manufacturing clutches for cars, tractors, LCV and MCV. In FY2001-2002, it shifted its focus and commenced manufacturing clutches for heavy and medium commercial vehicles. Clutch is one of the most critical components in any commercial vehicle. This along with innovation and R&D has helped the company to always remain ahead of its Indian competitors.

The company has set up one of the most modern R&D facilities for development of clutches. This allows the company to develop its products speedily. In 2006, the company acquired the clutch division from a leading global auto-component corporation in the UK along with its manufacturing and R&D center. This helped the company gain engineering design capability as well as intellectual property enhancing its capability to develop new products and designs with speed and flexibility desired by its customers. The company has now set up a modern R&D centre in their factory in Gujarat.

The company continues to invest in modernization and debottlenecking its production systems helping it achieve quality at scale. Its strong customer feedback process and the strong footprint of its sales personnel in the market allows it to secure robust inputs which are then shared with the shop floor engineers in a systematic manner.

...supported by the unique aftermarket business model...

Recognizing this aftermarket opportunity in the fast-expanding Indian transportation market, the company established an assembly unit in Uttaranchal to cater to this segment. The company has inked exclusive distribution arrangements with OEMs in organized retail replacement market ensuring wider and deeper reach of its products in the high realization replacement market. The company has created robust feedback channels with the support of OEMs' spare-parts division and has utilized the input to design better aftermarket products leading to a much higher per piece price than its peers.

The company has been able to therefore put together a business model that is benefitting OEMs as they now have a reliable partner to introduce branded, genuine, competitively priced products.

Not only has the successful business model in the aftermarket space helped the company mitigate the negative impact of the downturn, but has also helped it create new markets in geographies such as the US, Europe, the Middle East, South Asia and Africa.

...with robust people culture and practices...

Top management, especially promoters, has consciously built the culture of quality and timeliness in the workforce. Promoters frequently visit shop floor and different parts of the organizations and share the importance and leading practices with employees in the context of quality and timely delivery of products.

The company has taken measures to create a strong bonding between employees and the firm. The company supports education of its shop floor employees. This financial assistance provided by the company is what employees enjoy over and above their salaries.

This company is probably one of the few examples in the industry, wherein employees have been provided the opportunity to become shareholders. This opportunity provided to employees has made them partners in progress and has therefore automatically led them to take more interest in defining and executing actions impacting company's profitability.

...driven by professional management

In 2005, a private equity firm was allowed to invest into this company, which led to infusion of new thinking and a new set of best practices into the company's management and market creation strategies. The company ensures that the deals inked by top management with vendors and customers are open to scrutiny.

"An entrepreneur will provide the vision to the organization and the professionals need to transform this vision into reality"

– Chairman and Managing Director

Business outcomes

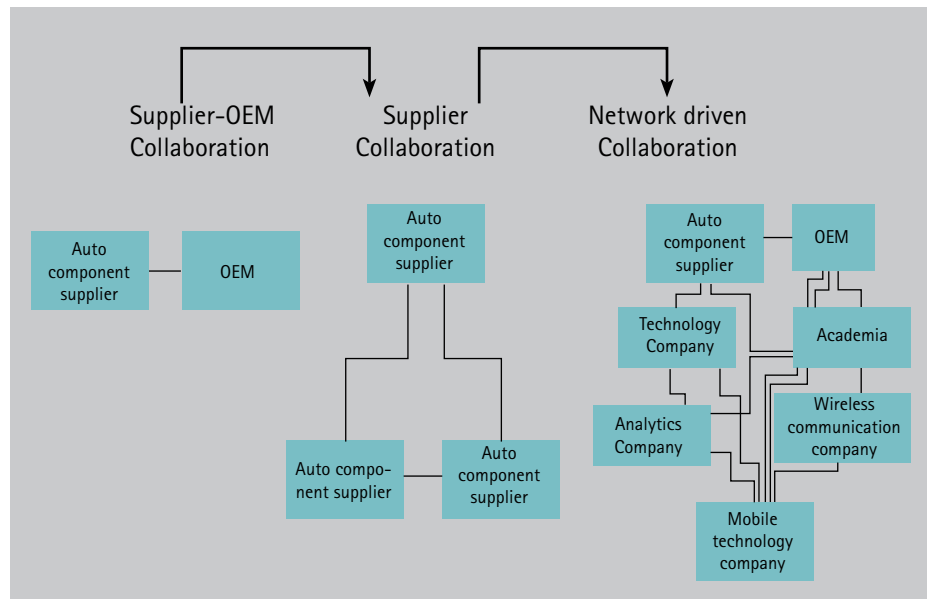
Built on the foundations of such unique capabilities and culture, the company has been able to gain a dominant share in the commercial vehicle clutch space (both original and aftermarket) catering to a wide customer base, medium and heavy commercial vehicles, in India as well as globally. It has been able to weather the downturn much better than its competitors. The company achieved a three year compound annual growth rate in sales of 22.2 percent as against a segment average of 17.7 percent between FY 2010 – FY 2012. The company witnessed sales growth of 19.9 percent in FY 2012 as against a segment average of 11.7 percent.

Example 6: Visionary collaborators*

In both industry and services, collaborative platforms have existed since centuries. For instance, merchants trading along the old Silk route collaborated to gain more profit. During the 15th century, various forms of collaborative trading networks shaped to support navigation ventures, such as those started by the Portuguese, and followed up initiatives by the Spanish and Dutch.

In the automotive space, robust collaborations amongst autonomous yet cooperating entities sprung in a very major way during the 1980s to support the Japanese models of production. Over years, the sector has witnessed a gradual evolution in systems of collaboration to tap collaborative intelligence. (See Figure 48.)

The supplier-OEM collaborations are quite common in the Indian automotive environment. Collaborations across suppliers are also seen across tier-1 and tier-2 suppliers, but rarely between suppliers in the same tier. The most uncommon form of collaboration is a collaboration driven by networks. In the evolving automotive business environment OEMs expect suppliers to pick up a larger burden of generating necessary R&D and design, making the network form of tapping collaborative intelligence a must. Why? Because this form of generating collaborative intelligence serves as a platform for the OEMs as well as suppliers to generate, apply and authenticate innovative products, processes and even business models based on end-customer-driven-insights with speed and greater level of accuracy.



MoDe

'Maintenance on Demand (MoDe)' is a classic example of how network collaborations will evolve and support the automotive industry in the coming years.

The business challenge from an end-customer perspective...

Increasing complexity of supply chains coupled with the challenge of serving customers in a highly price-competitive market is increasingly challenging global logistics companies to find innovative solutions to cut costs of operating their fleet. Maintenance occupies a strategic space in solving this economic puzzle of cost reduction.

With recycling and optimal usage more important than ever, there is a growing recognition that logistics solutions must switch to a 'just-in-time' approach to maximize the efficient life-span of each component used in the vehicle.

The question logistics companies need to answer is: How can they maximize reliability, avoid unplanned maintenance and keep a vehicle on the road with minimal disruption?

...translates into a product and technology challenge for the truck manufacturer...

To address this question faced by logistics companies, it becomes imperative to develop a mechanism that helps automotive manufacturers and consequently its suppliers, have a constant, clear and precise picture of a vehicle's health at any given time.

From a business model perspective, the challenge for a truck manufacturer supplying vehicles to logistics chains therefore translated into developing a commercially viable combination of a truck and technology that can:

- identify where and when will the truck required to be maintained and
- can provide alerts on the type of maintenance needed.

...laying the foundation for a network based solution...

At the level of the truck manufacturer there was a clear recognition that developing a solution for the client would require it to develop core competencies in additional areas such as real-time data processing, sensor technologies, repair processes, structural health monitoring amongst others.

Given that these were not business priorities for the truck manufacturer, it became imperative for the manufacturer to tap the collaborative intelligence of a network of players having these desired core competencies.

MoDe is born

MoDe brought together 11 leading companies and academic institutions with the focused objective of developing a commercially viable truck and an integrated maintenance platform capable of delivering maximum up-time and minimum down-time to the logistics operator during its lifetime.

The OEM has helped develop a smart service planning tool helping tailor maintenance to the vehicle's need depending on incoming information. The auto-component supplier has designed and developed sensor technology for the damper system. A technology company has provided an energy-efficient wireless communication system. The data-analytics company has helped focus on evaluating the effectiveness of in-vehicle sensors for condition monitoring. Wireless communication experts have helped design, develop and integrate the RFID-Technology. A mobile technology company has developed a tool to identify the perfect location for maintenance to take place once a truck has been diagnosed as unable to reach its destination. A technology university has pitched in to test lifetime models for vehicle components focusing on how such models can be used to estimate a component's remaining useful lifetime. Another technology company has worked on methods to estimate the remaining lifetime of a damper. The logistics company has drawn on its experience of operating a fleet of 80,000 trucks and vans.

The stable of offerings that can now be offered as a result of MoDe

With new products, technologies and processes, the network has helped create a set of unique offerings such as:

- Dynamic maintenance planning: wherein an integrated technology platform can provide dynamic maintenance plans based on information helping the vehicle stop earlier than planned but can continue its journey with less threat of disruption.
- Maintenance on-the-fly: wherein data is offered indicating immediate service is required helping the vehicle drive to a conveniently located repair spot, before continuing its journey.
- Repair on-the-fly: provision of support based on immediate detection of a problem when the component breaks down or is close to breakdown

*We thank Fraunhofer-Gesellschaft for allowing us to use relevant publicly available information on the MoDe Project funded by the European Commission, Grant Agreement No. 233890

List of interviewees

We wish to thank all the individuals listed below for their kind cooperation during the interviews scheduled.

S.NO.	Name	Company Name
1	Aditya Vij	Ex- General Motors; currently Fortis Healthcare
2	Akshat Babbar	ChrysCapital
3	A. M. Muralidharan	Volvo India Pvt. Ltd.
4	Ambuj Sharma	Department of Heavy Industry, Government of India
5	Amit Paschisia	Clearwater Capital Partners
6	Amitabh Srivastava	Gabriel India Ltd.
7	Amrit Agarwal	Gloria Engineering Pvt. Ltd.
8	Anandi Iyer	Fraunhofer-Gesellschaft
9	Anbu V	Indian Machine Tools Manufacturers Association
10	Anil Kapur	Tata Motors Ltd.
11	Arvind Balaji	Lucas - TVS Ltd.
12	Arvind Kapur	Rico Auto Industries Ltd.
13	Ashok Belani	Tata AutoComp Systems Ltd.- Interiors & Plastics Division
14	Avinash Kapoor	Helvoet Rubber & Plastic Technologies
15	Baba Kalyani	Bharat Forge Ltd.
16	Bharatendu Kapoor	Mahindra & Mahindra Ltd.
17	Deep Kapuria	Hi-Tech Gears Ltd.
18	Deepak Jain	Lumax Industries Ltd.
19	Devjit Sarkar	Mahindra & Mahindra Ltd.
20	Dr. Surajit Mitra	Indian Institute of Foreign Trade
21	Dr. Pawan Goenka	Mahindra & Mahindra Ltd.
22	Dr. Ravi Damodaran	Varroc Engineering Pvt. Ltd.
23	Dr. Surinder Kapur	Sona Koyo Steering Systems Ltd.
24	Durgesh Shah	Enam Securities Pvt. Ltd.
25	F.R. Singhvi	Sansera Engineering Pvt. Ltd.
26	Ganesh Iyer	Caterpillar India Pvt. Ltd.
27	Gayathri Sriram	UCAL Products Pvt. Ltd.
28	Gursharan Singh	Raunaq Automotive Components Ltd.
29	Harish Lakshman	Rane TRW Steering Systems Ltd.
30	Harish Sheth	Setco Automotive Ltd.
31	Harshbeena Zaveri	NRB Bearings Ltd.

List of interviewees

S.NO.	Name	Company Name
32	Hemant Sikka	Mahindra & Mahindra Ltd.
33	I. V. Rao	Maruti Suzuki India Ltd.
34	Jayant Davar	Sandhar Technologies Ltd.
35	J.S. Rangar	Stork Auto Engineering Pvt. Ltd.
36	K. Ilango	Rangamma Steels & Malleables
37	K. Ravi	Roots Industries Ltd.
38	K. Saravanasundaram	Roots Industries Ltd.
39	K.G. Mohan Kumar	Toyota Kirloskar Auto Parts Pvt. Ltd.
40	Kabir Bhandari	Padmini VNA Mechatronics Pvt. Ltd
41	Kanchan Panth	Sharada Industries
42	Kannan Chakravarthy	Mahindra & Mahindra Ltd
43	Karl Slym	Tata Motors Ltd.
44	Kaushal Maroo	Emkay Global Financial Services Ltd.
45	Killoi Kamani	Samarth Engineering Company Pvt. Ltd.
46	L Ganesh	Rane Group
47	Lalit Pahwa	Escorts Auto Products Ltd.
48	M. Manickam	Sakthi Auto Components Ltd.
49	Mahendra Goyal	Anand Group
50	Mahendra Killedar	Faurecia Emission Control Technologies
51	Manoj Kolhatkar	Gabriel India Ltd.
52	M. M. Singh	Maruti Suzuki India Ltd.
53	N.K. Minda	Minda Industries Ltd.
54	N.K. Taneja	Ashok Minda Group
55	Navin Paul	Bosch India Ltd.
56	Neeraj Mathur	Hero MotoCorp Ltd.
57	P. Kaniappan	WABCO India Ltd.
58	Pankaj Mittal	Motherson Sumi Systems Ltd.
59	Pravin Malhotra	Nipman Fastener Industries Pvt. Ltd.
60	R.C. Bhargava	Maruti Suzuki India Ltd.
61	Raja Annamalai	K. R. Industries
62	Rajesh Goyal	Honda Cars India Ltd.

List of interviewees

S.NO.	Name	Company Name
63	Rajesh Kale	Gabriel India Ltd.
64	Rajiv Kr. Goyal	Raunaq Automotive Components Ltd.
65	Rajni Kant Sharma	Hero Motocorp Ltd.
66	Randeep Singh Jauhar	Jamna Auto Industries Ltd.
67	Ranjot Singh	Emdet Jamshedpur Pvt. Ltd.
68	Rashi Talwar	Ashmore Investment Advisors (India) Pvt. Ltd.
69	Ravi Venkatesan	Thinker and Independent Consultant
70	S Narayanan	Bimetal Bearings Ltd.
71	S. Ramakrishna	Tata Motors Ltd.
72	Sadashiv Pandit	Fleetguard Filters Pvt. Ltd.
73	Sandeep Balooja	Anand Group
74	Sanjay Labroo	Asahi India Glass Ltd.
75	Sanjay Sabharwal	Metaldyne Industries Ltd.
76	Saurabh Poddar	Sellowrap Industries Pvt. Ltd.
77	Srivats Ram	Wheels India Ltd.
78	Sugato Sen	Society of Indian Automobile Manufacturers
79	Sumeet Jerath	DGFT, Ministry of Commerce and Industry
80	Suresh Williams	Alpha Drives Ltd.
81	Surinder Kanwar	Bharat Gears Ltd.
82	Surjit Arora	Prabhudas Lilladher Stock Broking Services
83	T. Parthasarathy	Kirloskar Oil Engines Ltd.
84	T.K. Balaji	Lucas - TVS Ltd.
85	V. Balasundaram	LG Balakrishnan & Bros. Ltd.
86	Vikram Kasbekar	Hero Motocorp Ltd.
87	Vikram Kirloskar	Toyota Kirloskar Motor Pvt. Ltd.
88	Vikram Mohan	Pricol Ltd.
89	Vinay Pusalkar	Indo Schöttle Auto Parts Pvt. Ltd.
90	Vinod Dasari	Ashok Leyland Ltd.
91	Vinod Sahay	Tata Motors Ltd.
92	Vipin Sondhi	JCB India Ltd.
93	Vishnu Mathur	Society of Indian Automobile Manufacturers

Endnotes

ⁱ ACMA calculations

ⁱⁱ For more information, see <http://selectusa.commerce.gov/industry-snapshots/automotive-industry-united-states>

ⁱⁱⁱ Growth rate calculated for turnover in Indian rupees over the period 2007–2008 to 2012–2013.

^{iv} Accenture analysis.

^v ACMA data.

^{vi} ACMA Vision 2020 Report.

^{vii} Global GDP has shrunk on many occasions in the last 80 plus years. It did so three times between 1952 and 1962, and three times again between 1973 and 1983. Global GDP contracted once more in 1992 and in 2002. During the crises of 1973 and 1982, world GDP shrank by about 2.5 percent, inflation peaked in excess of 12 percent and unemployment reached a staggering 8 percent and 10 percent.

^{viii} ASEAN (the Association of South East Asian Nations) is a geopolitical and economic organization comprising 10 countries located in Southeast Asia. ASEAN was formed on August 8, 1967, by Indonesia, Malaysia, the Philippines, Singapore and Thailand. Since then, membership has expanded to include Brunei, Myanmar, Cambodia, Laos and Vietnam.

^{ix} "After Toyota, Honda to cut output by 50% in India," Times of India, 2011. Accessed on 8 July 2013. Downloadable at: http://articles.timesofindia.indiatimes.com/2011-04-26/india-business/29474060_1_production-loss-supply-chain-honda-city

^x Nunes, P. & Downes, L. "Big Bang disruptions are transforming the automotive industry," Forbes, 2013. Accessed 12 July 2013. Downloadable at: <http://www.forbes.com/sites/bigbangdisruption/2013/06/03/big-bang-disruptions-are-transforming-the-automotive-industry/>

^{xi} *Op. cit. x*

^{xii} ELV: End of Life Vehicles; WEE: Waste Electrical and Electronic Equipment; REACH: Registration, Evaluation, Authorization and Restriction of Chemicals; RoHS: Restriction of Hazardous Substances; EuP: Energy-using Products.

^{xiii} International Monetary Fund estimates,

^{xiv} Dargay, J. et al. "Vehicle Ownership and Income Growth, Worldwide: 1960-2030," 2007.

^{xv} If a firm does not make money on its investments, it destroys value.

^{xvi} Spread is a measure of a company's ability to make money on its investments.

^{xvii} In poker, 'table stakes' limits the amount a player can win or lose in the play of a single hand. A player may bet no more money than he had on the table at the beginning of that hand and consequently cannot go back to his pocket for more money once a hand is dealt. In business, 'table stakes' refers to the minimum entry requirement for a market or business arrangement.

^{xviii} Dawar, S. et al. "High Performance Manufacturing: India's Next Opportunity," Accenture, 2010.

^{xix} Economic Policy Institute, "Putting the Pedal to the Metal: Subsidies to China's Auto Parts Industry from 2001 to 2011," Briefing Paper No. 316, January 31, 2012.

^{xx} Accenture calculations and information based on articles such as "Total sales of auto-parts in China in 2011 amounted to CNY 2 trillion." (For more information, see http://www.chinadaily.com.cn/cndy/2013-05/27/content_16534059.htm)

We would like to place on record our appreciation of Accenture for conducting this exhaustive and comprehensive study. As Knowledge Partner for the 2013 ACMA Annual Session and National Conference on "High Performance in Turbulent Times: Creating Advantage from Adversity" the Accenture team conducted intensive interviews across the country to develop this perspective on managing the "new normal".

Additionally, we acknowledge the ACMA secretariat for their effort and contribution to this study.

About Accenture

Accenture is a global management consulting, technology services and outsourcing company, with approximately 275,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world's most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. The company generated net revenues of US\$27.9 billion for the fiscal year ended Aug. 31, 2012. Its home page is www.accenture.com.

Copyright © 2013 Accenture
All rights reserved.

Accenture, its logo, and
High Performance Delivered
are trademarks of Accenture.