

# Turning Toward Success for Automotive Suppliers

Lessons from the Survive-to-Thrive Guide



# Executive Summary

This is one of the darkest—and brightest—moments in history for the automotive industry. The financial futures of some of the mightiest automotive OEMs in the United States, Asia, and Europe are in serious doubt, casting a pall over the entire sector. Yet, amid the talk of bankruptcy and bailouts, is the emergence of global auto markets as formerly third-world countries exchange animal-drawn carts for automobiles. The juxtaposition of long-term fortune and failure among auto makers and their suppliers is stark, and the stakes are clear: Those firms that can survive *today* are likely to thrive in an even more profitable industry *tomorrow*.

Those two components—surviving and thriving—require that auto makers and automotive parts suppliers bridge significant performance gaps to keep them viable today and positioned for growth tomorrow. *Turning Toward Success for Automotive Suppliers* offers a roadmap to help to get the industry rolling, describing:

- **Volatile yet promising markets, and market pressures, that exist today, with new consumers from China to Prague and corresponding new problems** (for example, the credit crunch and rising material costs).
- **Operational challenges that automotive suppliers must address** (for example, rightsizing capacity, continued leaning of operations, and management of changing workforces).
- **Steps that the automotive industry can take to drive success** (for example, enhanced R&D, broader application of improvement tools, supply-chain coordination, and collaboration).

# The Ultra-Challenging Automotive Market

Few industries have faced challenges as sudden and overwhelming as those affecting the automotive sector. A rising tide of market forces has swamped both OEMs and their supply chains:

- **Surging oil prices drove buyers to fuel-efficient and hybrid vehicles almost overnight.** The current revenue and profit impact has been obvious—high-margin truck and SUV sales are in freefall—but less visible are the long-term effects of this fundamental market shift. Years of wasted dollars, time, intellectual property, and resources have been funneled into the development of vehicles destined to sit on dealers' lots—and not into the types of cars buyers now want. Why didn't automotive OEMs and their suppliers foresee changing markets?
- **A worldwide realignment of the automotive industry.** Longtime automotive leaders, such as General Motors, Ford, and Chrysler, saddled with legacy cost and benefits structures, are rapidly losing market share to global competitors, such as Toyota and Honda; the Big Three are no more (and, given current merger talks, may soon be two or fewer). Even Toyota looks over its shoulder at upstart rivals, such as the India-based Tata Motors, as the entire industry regroups. More than 70 million vehicles were produced globally in 2007,<sup>i</sup> and there has been a rapid rise of new production and consumer automotive markets in China, India, and Eastern Europe. Auto sales in China, for example, were at 8.88 million in 2007, a number 22 percent higher than 2006;<sup>ii</sup> the recession has dampened the near-term outlook for China's automotive sector, but long-term prospects remain strong. Similarly, India's automobile sales exceeded 1.5 million in 2007 and are expected to one day surpass those of China.<sup>iii</sup> OEMs and suppliers alike will have to learn how to compete in a broader, more diversified market.
- **The global liquidity crisis has complicated life for automotive OEMs and their suppliers,** and not just because of banks' reduced willingness to provide lines of credit or to finance inventory. Consumers overloaded with higher-interest debt are less willing or able to purchase new vehicles. At the same time, the automobile industry, reeling from lower resale prices for end-of-lease vehicles, is less willing to offer attractive new leases. The result is plummeting demand—and warning signals throughout the automotive supply chain. Many OEMs are literally at the end of their financial ropes.
- **Even as production by OEMs has slowed, price increases for raw materials have further damaged bottom lines.** Steel, for example, hit record levels in 2008, increasing approximately U.S. \$500 per vehicle. Platinum and aluminum prices have jumped upward, as well.<sup>iv</sup>

It is true that many of these macro trends *are* out of the control of automotive executives, yet there are numerous factors that OEMs and automotive suppliers have not managed as well as they might have in recent years, including:

- Underutilized production capacity (such as unnecessary capacity).
- Inefficient production and fulfillment processes (such as inventory that has moved around supply chains—but what has really been removed?).
- Poor management of changing workforces (such as labor agreements right for today).
- Inability to further improve productivity and manage costs (such as point improvements but not enough system-wide improvements).
- Lack of customer-focused supply chains (such as lengthy and misguided new product launches).

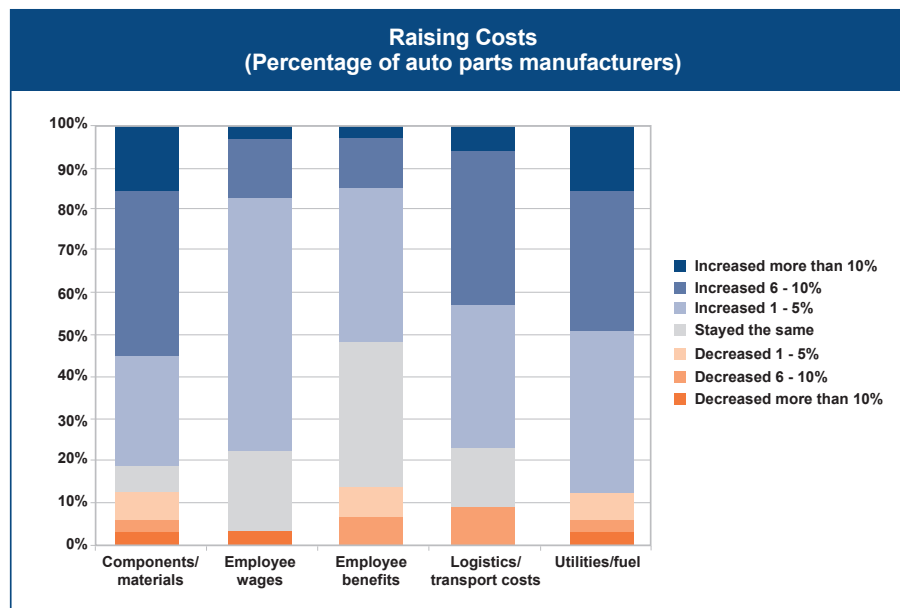
The key to survival in the current automotive climate—and to thriving when demand and markets recover—will be how automotive suppliers and their OEMs manage these *internal* challenges while they wait for *external* conditions to improve.

## Internal Challenges for Automotive Supply Chains

It's no secret that even before the recent economic downturn, many automotive OEM and supplier plants were looking at large swaths of unused production facilities. Indeed, one-fourth of auto parts manufacturers in North America were utilizing half of their production capacity *or less*. Thirty-nine percent of auto parts manufacturers report that production volume as a percentage of designed capacity had declined over the past three years. By comparison, just one-fifth of other manufacturing plants had production capacities of 50 percent or less, and only 27 percent of non-auto plants reported that their production volume had declined.<sup>v</sup> The European auto industry is not without its share of underused capacity. Even prior to the late 2008 economic downturn, PricewaterhouseCoopers (PWC) was anticipating lower capacity usage in Europe for the year. For example, Renault had 71.4-percent capacity usage in Europe (a Renault plant in Spain uses just 49.2 percent of capacity, according to PWC).<sup>vi</sup>

Unfortunately, unused production capacity may be the least of the industry's internal challenges. It's ironic, for example, that the industry that created Lean Manufacturing may be getting less benefit from this improvement methodology than other sectors. Why? Because even though 66 percent of auto parts manufacturers have deployed Lean and/or the Toyota Production System (TPS) versus 53 percent of other types of manufacturers, the impact of these efforts is no better: 85 percent of Lean auto parts manufacturers report that the improvement method has increased their profitability (28 percent report a "major increase") versus 92 percent of firms in other manufacturing sectors that have increased profitability with Lean (27 percent report a "major increase").<sup>vii</sup> Automotive supply chains are rife with stories of supposed Lean implementations that really consist of one supplier's excess inventory simply being pushed down a level onto a next-tier supplier. Is it possible that the use of Lean among auto OEMs and their suppliers has been un-Toyota-like—with a focus not on process and efficiency throughout the supply chain, but on what's good for me, regardless of how it affects supplier partners?

Costs are another significant industry challenge across the globe. Even before energy and raw material prices spiked, the vast majority of auto parts manufacturers indicated that costs had risen for a wide array of expenditures, with many North American facilities reporting increases of more than 10 percent (*see Rising Costs* chart). For example, 82 percent of auto parts manufacturers report that component and material costs had increased in the past year (15 percent report a price increase of more than 10 percent). Yet, even where auto suppliers *could* control costs—such as per-unit manufacturing costs excluding purchased material—most failed. Only 33 percent of auto parts manufacturers have reduced manufacturing costs; 52 percent reported an increase in per-unit manufacturing costs; and 15 percent reported that costs remained the same. Given this lack of progress, it's not surprising that gross margins at auto supplier facilities are only 15 percent (median) as compared to 35 percent (median) among all other manufacturers.<sup>viii</sup>



If auto makers and their suppliers have been surprised by recent challenges, their employees have been equally (if not more) stressed. Dozens of plants are closing or downsizing in markets around the world, and tens of thousands of production and management jobs have been eliminated. In just one recent example, auto parts maker Federal-Mogul announced it was cutting 8 percent of its global workforce (4,000 jobs) as it consolidates in reaction to sagging U.S. auto sales.<sup>ix</sup> Layoffs and scaled-back operations at many automotive and supplier companies are sending countless employees home. Yet, as challenging as this reality is for both companies and employees, a few auto suppliers and OEMs are looking for a long-term silver lining: At some idle production facilities, companies such as Toyota keep employees in the plants, focusing on training and problem-solving *now* in anticipation of benefits *later* when production starts again.<sup>x</sup>

One of the automotive industry's most intractable problems has been effective supply-chain management. In recent years, many costs and responsibilities—including critical issues, such as end-product warranties—have been pushed down the supply chain from tier to tier, often with little compensation for their new managers other than the right to keep existing business at lower margins. And, while there are well-managed supply chains, many OEMs and Tier 1 suppliers still resort to penalties and bullying to get their way with suppliers—even as the market requires more (not less) collaboration to get cars quickly from the drawing board to the showroom. Indeed, any delay is costly; shorter product life cycles mean that missing launch deadlines by even a single month can cost an OEM up to 2 percent of total life cycle production. “The launch of a new vehicle is, in many ways, the ultimate test of a good coordinator,” report Sean McAlinden and Brett C. Smith at the Office for the Study of Automotive Transportation, Transportation Research Institute, University of Michigan. “Not only must the assembler coordinate the development of the vehicle and the conversion of the assembly plant, but they must also concurrently work with their suppliers to ensure quality and volume at Job 1.”<sup>xi</sup>

## How to Drive from *Survive to Thrive*

Automotive suppliers must adapt now to their changing market if they hope to go from merely surviving to actually thriving. The following five key steps can help get them headed in the right direction:

- **Right-size facilities in order to meet changing demand patterns**

Lean strategies may have helped auto suppliers reduce their production footprints in recent years, yet the accelerating trend toward facility consolidations and closings seems to confirm that many parts makers held on to too much, for too long. The question these suppliers need to ask now is this: Are they eliminating the right pieces and in the right places? Careful analysis of costs and value streams throughout their supply chains' portfolios of plants—in relation to short- and *long-term* consumer auto trends around the globe—is the only way to plan for right-sized capacities. In the current environment, executives will be tempted to cut costs as quickly as possible; for some auto suppliers, like their OEMs, there may be little choice. But for many, the wisest course will be to focus on long-term trends, assembling a facilities network—in combination with suppliers—that can flex to today's tight markets but expand for tomorrow. Automotive suppliers need to examine markets where future growth lies, evaluating and altering their product offerings to meet the needs of the next generation of customers.

- **Improve product development and launch**

It can take two years or more to deliver certain high-end luxury autos from the date a customer places an order.<sup>xii</sup> Do some high-end buyers lose their excitement and interest once their autos finally show up, aware that new models of the same car are being promoted in showrooms? Auto makers and their parts manufacturers put themselves at risk with long development cycles. Savvy automotive executives throughout the industry are instead listening to the advice of Lean experts, such as that offered by the late Allen Ward, who described, in *Lean Product and Process Development*, the role of product development as not simply creating a product, but as creating operational value streams that run from suppliers to plants and out to customers; development has value only if it enables operations to deliver better products to customers.<sup>xiii</sup> Doing so requires a thorough understanding of all customer needs—from operations to sales to service—and the ability to evaluate all value inputs against one another and to then determine the outputs (products) that will best satisfy customers. Have auto makers and their suppliers been building value streams or merely combining steel, rubber, glass, and chrome?

- **Workforce development**

Automotive OEMs and auto parts manufacturers increasingly understand that they must invest in employee development, because the path to success in today's decentralized organizations requires employees who can think and act without authoritarian supervision. Even in unionized facilities, working agreements now embrace the flexible, problem-solving approach exemplified by Toyota. For example, Toyota and many of its suppliers expect *all* employees to show potential for leadership, to participate in teams, to develop the skills and flexibility necessary for multiple jobs, and to focus on safety and built-in quality. The automaker also seeks and develops employees with a structured approach to thinking, problem-solving, and improvement.<sup>xiv</sup> This can't occur without investments in recruiting and hiring processes, training and development procedures (leadership to front-line) and, last and most difficult for many entrenched workforces and management, minimizing "us versus them" labor-management mentalities. With so many automotive firms fighting to stay alive, can they really afford to be fighting their workforces?

- **Focused, broadened application of improvements**

While it's true that Lean Manufacturing and Toyota Production System (TPS) tools are well distributed throughout the automotive sector, the industry's application of Lean falters in two significant ways. First, improvements aren't always guided by an overarching plan of where and why to deploy; second, the improvement approach rarely moves far enough beyond the plant floor. This is especially true of the auto-parts-manufacturer section of the supply chain. For example, while 62 percent of North American auto parts manufacturers use Lean concepts, such as *kaizen* (continuous improvement) events, only one-third use strategy deployment to set goals and to determine how and where improvements are targeted throughout the organization. This begs the question: Just how do the other two-thirds determine goals and what to improve? What usually happens is that the low-hanging fruit (such as the plant floor) becomes the improvement target. Not surprisingly, 89 percent of auto parts manufacturers have applied their improvement methodologies on the plant floor, but just 22 percent have applied them to finance and accounting, 27 percent to administration, and 30 percent to customer relations. In fact, only 50 percent of processes (median) at automotive sector companies have been addressed with improvement methodologies. Only by working on these missing pieces—focused strategy and comprehensive implementation—can auto suppliers begin to see the improved cost, quality, and delivery performances that are possible.<sup>xv</sup> Non-shop-floor improvements are challenging because processes related to information flow are not as visible as those on a production line; yet, addressing these areas often reveals vast inefficiencies that weaken the organization and damage the bottom line.

- **Processes and systems to connect customer demand to all supply tiers**

Lean theory begins and ends with a focus on the customer. The customer demand signal is pulled through the supply chain, from OEM to the farthest supplier. In today's global automotive supply chains, that's a daunting task: Communication must occur based on "partnering" relationships up and down the chain (not simple buy-sell bullying from OEMs to parts providers), supported by information technology systems that can quickly capture customer demand in all its variety and then turn that information into actionable scheduling, planning, and product development for the entire supply chain. It's important to ask, then: How could the auto industry, from OEMs to auto parts makers, have been surprised by consumer demands for greener, more fuel-efficient vehicles and been so slow to react? OEMs and auto suppliers can only develop profitable, long-term customer relationships by more effectively tracking and monitoring customer needs both directly and through their supply-chain partners. Many auto parts manufacturers are moving toward this model with corporate strategies and processes, yet few have updated their business management systems to adequately support these new processes: 42 percent of auto parts manufacturers have enterprise resource planning (ERP) in place; 15 percent have customer relationship management (CRM) systems in place; and only 6 percent have both ERP and CRM in place.<sup>xvi</sup> These numbers reveal an enormous opportunity for parts manufacturers to leverage business systems that are readily available, which will help them to realize greater operational efficiencies, improve access to critical data, better manage inventory, and cut costs.

# Conclusion

Leading auto OEMs and auto parts manufacturers will wield these new strategies as competitive weapons. Savvy auto parts manufacturers are investing time and resources *now* into right-sizing their facilities, growing learning workforces, implementing *strategic* operations improvements, and truly connecting their global supply chains—all enabled by business management systems robust enough to contain costs *now* and to support growth *later* when the auto market rebounds. Will your auto firm and its supply chain be ready to thrive?

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<sup>v</sup> North America data on 38 motor vehicle parts manufacturing plants, NAICS 3363, from The *IndustryWeek*/Manufacturing Performance Institute 2007 Census of Manufacturers; 2007 Canada Manufacturing Study, conducted by *Advanced Manufacturing* and the Manufacturing Performance Institute; and Estudio De Manufactura Mexico 2007, conducted by the Manufacturing Performance Institute with support of CS Events.

<sup>vi</sup> Revill, John. “Honda: Europe’s Plant Capacity Champ.” *Automotive News Europe*. September 29, 2008. Citing research from the PricewaterhouseCoopers Automotive Institute.

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<sup>xvi</sup> Ibid.

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