ONE

The Most Admired Company in the World

It is essential that our global leadership team embrace the concepts of the Toyota Way as we achieve our business goals in host countries which have a wide variety of customs, traditions, and business practices.

—then president Fujio Cho in the preamble to *The Toyota Way 2001*

As 2007 ended, it would be no exaggeration to say that Toyota was on top of the world. While you could argue whether it was the largest car company in the world, depending on what measurements you used, there was no question that it was the dominant car company globally. Toyota was the firm that all others benchmarked themselves against. It was far more profitable than its major American competitors. In fact, it had been continuously profitable for almost 50 years, a record that rivaled that of any global 1000 firm and was unheard of in manufacturing industries.

Its growth and profitability were driven by its extraordinary record of quality and customer satisfaction. It dominated annual quality awards and value-for-money rankings. Toyota's

vehicles held their value much better than its competitors' products. Customer loyalty was tops in the industry. The company was profitable in every vehicle segment, from small cars to massive SUVs. It had even made the Prius—the world's first mass-production hybrid—profitable, a feat that, when the vehicle was launched, industry observers had claimed could never happen.

But Toyota's position was more dominant than even these impressive figures might suggest. Toyota had literally revolutionized manufacturing, process engineering, and quality, setting new standards for operational excellence that had become goals for companies in many industries. Toyota changed the way a large portion of the world thinks about quality and how to continuously improve any process. Today, almost every large organization, regardless of its sector or country, at least speaks the jargon of built-in quality, lean, and just-in-time operation, although only a select few have carried the concepts to anything approaching the level that Toyota has.

At the end of 2007, it seemed that everyone loved Toyota, even such diverse constituencies as Wall Street investors and hard-core environmentalists. Millions of books explaining Toyota's approach were sold, not least *The Toyota Way*, and companies were spending billions of dollars trying to understand, learn from, and replicate the Toyota model.*

It's Toyota's overwhelming success that makes it hard to believe today that there was a time when "Made in Japan" was a synonym for junk rather than high quality, or when American car companies had a stranglehold on the global car business. Or that Toyota Motor Corporation began with a single self-taught

* Jeffrey K. Liker, *The Toyota Way* (New York: McGraw-Hill, 2004).

inventor tinkering with looms in an obscure rural village outside Nagoya, Japan, in the late 1800s.

So how did Toyota rise from the rural rice fields of a backward, unindustrialized country to the top of the world, the vantage point that made its fall from grace so shocking? That history is not just a curiosity. Indeed, understanding the underpinnings of Toyota's success is critical to understanding what happened at Toyota from 2008 to 2010 and how it acted and reacted under fire.

From Humble Beginnings

Toyota was born out of the tinkering of Sakichi Toyoda, who grew up the son of a poor carpenter in a region of rice farmers. In the late 1800s, as Japan was trying to catch up to the industrialized nations after over 200 years of being closed to the outside world, the Japanese government encouraged the growth of small-scale manufacturing across the country. This included village and even home-based mills. The women of Toyoda's family were involved with weaving—at the time a difficult, labor-intensive process undertaken with manual looms, using technology that had not changed much in a century.

Just like the inventor-heroes of Western lore, such as Alexander Graham Bell, Charles Babbage, James Watt, Guglielmo Marconi, Louis Pasteur, and Thomas Edison, Sakichi Toyoda tinkered in his workshop for decades, refining his loom designs by trial and error, hoping to ease the manual labor of his female relatives. His first manual wooden loom in 1891 immediately reduced that burden by using gravity and a foot pedal to move the loom's shuttle back and forth, doubling productivity. Over the

next few years, he made a number of other improvements to his looms, and by 1896 he had produced a steam-driven power loom that quadrupled productivity. Toyoda's tinkering not only led him to automatic loom design, but necessarily also took him into engine design—after all, the automatic looms needed a power source. But his best-known innovation, an innovation that set the pattern for all of Toyota's future history, was a way of eliminating common mistakes in the weaving process.

Using a manual loom, it was easy to spot mistakes and quality problems—the process was quite slow, allowing the weaver to closely inspect the cloth continuously. But the faster rate of automatic looms meant that defects or problems were harder to spot. And when an error occurred—the most common problem was a thread breaking—the loom could keep running long after the product was ruined. For a cottage weaving shop, this was potentially disastrous. Such a shop couldn't afford to waste materials, so people were stationed at the "automatic" looms to shut them down in case there were problems.

Of course, that defeated a lot of the benefit of automation. In response, Sakichi Toyoda invented a mechanism that would stop the loom automatically as soon as a thread broke. As he put it, he "freed the person from the machine" so that people could spend their time doing value-added work instead of simply monitoring the machine. This and other innovations were so groundbreaking that Platt Brothers of England, the world's dominant loom maker, eventually bought the rights to one of Toyoda's most popular looms. The proceeds from the sale funded the start-up of Toyota Motor Corporation. Now referred to in Japan as the "king of inventors," Sakichi Toyoda also is credited as being a leader in fueling Japan's industrial revolution.

The Toyota Production System and Toyota Business Practices

Those with at least a passing knowledge of Toyota's approach to manufacturing will recognize the origin of the now famous *andon* cord in Sakichi Toyoda's "mistake-proof" loom. The *andon* cord is pulled by a worker in a production plant to stop the assembly line as soon as an error is detected (all of Toyota's automated equipment also has built-in error detection that will shut down the machine automatically). The basic philosophy of immediately identifying and eliminating mistakes and waste has been a core pillar of the company from the very beginning.

The shift from looms to motor vehicles was driven by Sakichi Toyoda's son Kiichiro, on the advice of his father. Sakichi believed that the firm needed to expand into other areas of manufacturing. In 1929, Kiichiro began traveling to the United States and Britain regularly, ostensibly to negotiate licensing terms for the company's loom technology. In reality, he was also learning all he could about automobile and machine tool factories to help guide him in setting up the automobile division at Toyoda Loom Works, which he did in 1933. By 1937, Toyota Motor Company (today known as Toyota Motor Corporation or TMC), was the center of the business.

It was Kiichiro Toyoda who, in a key document in the late 1930s laying out Toyota's operating philosophy, first penned the words "just-in-time," describing a continuous flow of materials from raw materials to the customer. The theory was put into practice under the leadership of another iconic figure in Toyota's history, Taiichi Ohno, who tried his first "pull system," building in response to customer pull, in 1948 and who first put into a plant, by 1953, what some now call a "supermarket."

Ohno's supermarket idea was inspired by a conversation with a friend who had recently visited the United States and described the American self-service supermarket. Before the widespread availability of refrigeration, inventory control in the grocery business was critical. Food spoiled quickly, and so grocers needed to keep a close eye on their inventory, keeping only enough on hand to meet a few days' demand. In modern terminology, supermarkets needed just-in-time inventory management, and that's exactly what they had.

The nascent Toyota Motor Company had a problem similar to that of supermarkets. While there was no danger of Toyota's inventory spoiling, the company simply didn't have the funds to keep inventory on hand. As a small outfit, it needed to conserve its very limited working capital as much as possible. Like American supermarkets, where goods like milk are put up on the shelf only in the quantity needed to replace what the customers take away, Toyota factories would eventually have internal "supermarkets" that replenished parts on the assembly line as they were needed.

The combination of Sakichi Toyoda's emphasis on eliminating mistakes and Kiichiro Toyoda's emphasis on and Taiichi Ohno's innovations in just-in-time inventory formed the basis of what has become known as the Toyota Production System (TPS). TPS, as it evolved and was refined over the course of the next 80 years, is the blueprint that guides Toyota's operations from suppliers to manufacturing to delivery of automobiles and service parts to dealerships. Above all, it focuses on the relentless pursuit of quality and the elimination of waste through continuous improvement by all workers and managers. That sounds like common sense today, but it was and is revolutionary. The dominant model of manufacturing systems before Toyota's rise as a global

leader was the pursuit of economies of scale. This approach focused on driving down the cost of production by increasing the amount that was produced at every step of the process. Inevitably this caused a buildup of inventory, but that was perceived as a good thing. Quality problems could be tolerated because there were always more parts to pull from inventory. The belief was that reducing defects was far more expensive than maximizing efficiency and throwing away the flawed parts.

Toyota proved that the opposite was true. If you eliminated waste and quality problems, you could operate far more cheaply—and keep customers much happier. The process for eliminating waste and errors that Toyota has developed is founded on the insights of Taiichi Ohno. Ohno saw that if the company was to maintain Sakichi's commitment to catching and fixing problems and Kiichiro's commitment to just-in-time operation, it had to have a systematic way of solving problems throughout the company. His focus was on drilling down to the root cause of the problem by asking why five times.

The problem-solving process that Ohno started was later enhanced by ideas from an American who was dispatched to Japan by the U.S. government to assist in the rebuilding of Japan after World War II, Dr. W. Edwards Deming. Deming's ideas are the foundation of the modern quality movement. He taught Japanese managers about the importance of quality and a way of thinking about how to achieve it. Central to Deming's approach was a radical expansion of the definition of the word *customer*. Historically, customers were considered to be the end users of a product. Deming taught that "the customer" is also the next stage of a process. Thus, serving the customer in a manufacturing environment meant providing the next step in the assembly line with exactly what it needed, in terms of both quality and volume, at

the exact time it was needed. When problems with serving customers were encountered, Deming advocated a highly systematic approach to solving them, known as the Plan-Do-Check-Act (PDCA) cycle.*

The PDCA cycle is fairly intuitive. Before you attempt to fix a problem, you need to make sure that you have a *plan* that is likely to succeed based on thorough study of the root cause of the problem, not just its symptoms. Once you have a plan for fixing the root cause, you *do* the solution in a test environment, *check* that the solution works, then *act* based on what you learn from the test environment, either improving the plan or moving on to another area that is in need of improvement. Thus, the PDCA cycle never ends—the final step always points to opportunities for further improvement.

The Toyota problem-solving process, known first as "practical problem solving," has evolved to today's version, called Toyota Business Practices (TBP). It is Toyota's approach to solving problems, from eliminating errors in individual jobs to setting the global strategy of the company

In summary, the TBP process begins with a statement of the problem, including the gap between the actual and the ideal conditions. This gap is then broken down into the most important problems that can be acted upon. These specific subproblems are then analyzed by asking "why?" until the root cause, not a surface cause, is found. Within Toyota, this is known as the Five Whys—the belief that to find the root cause of a problem, you have to ask "why" at least five times. Countermeasures are then identified, tried, and monitored, with further adjustments being made until the gap is eliminated and the next challenge identified.

* Deming adapted the PDCA cycle from William Shewhart.

The eight steps of TBP are

Plan

1. Define the problem relative to the ideal.
2. Break down the problem into manageable pieces.
3. Identify the root cause.
4. Develop alternative solutions.
5. Evaluate and select the best solution based on what is known.

Do

6. Implement the solution (on a trial basis if possible).

Check

7. Check the impact of the solution.

Act

8. Adjust, standardize, and spread based on what has been learned.

While TPS is mostly a system for manufacturing and repetitive processes, TBP takes the philosophy of TPS and applies it broadly to the entire enterprise, from manufacturing to engineering to sales, and even to strategic decision making. Toyota believes that this problem-solving process is essential to leadership—every leader, no matter what his role or department, is expected to be a master of TBP. Mastering this process allows even a leader with a background in finance or human resources, for instance, to contribute meaningfully on the shop floor, and also to view his own department's work as a set of processes that can be improved.

Another major contribution from Ohno was the development of standardized work. This is the concept that every job on

the production line needs to be tightly defined and performed in the exact same way by every worker who is doing that job. Solving problems on the production line and continually improving performance simply couldn't be done without standardized work—it would be virtually impossible to isolate and correct any factors that were contributing to a defect or underperformance with the added variation of the same job being done in different ways. Many Westerners initially find the concept of standardized work distasteful, imagining a system that treats people like cogs or robots. On the contrary, standardized work allows line workers to think about what they are doing, why they are doing it, and how to improve it. Think of it this way: no one thinks of great actors like Sean Penn or Meryl Streep as drones or cogs. But they can't bring their creativity and insight to a role until they've memorized the script. Standardized work is like an actor's script. It's the basis on which a production worker can apply her skills to continuously improve a process. Without standardized work, TPS and TBP would be impossible.

Building on a Firm Cultural Foundation

The Toyota Production System is the foundation that is often credited with allowing Toyota to emerge from the small, devastated market of Japan in the 1950s and become the world's largest carmaker. Along the way, Toyota dramatically changed perspectives of what was possible in terms of the quality and productivity of design and manufacturing operations. But as any student of industrial organization or psychology, or even anyone familiar with the history of any large company, will tell you, processes and procedures are never enough to ensure excellence.

As management thinkers like Peter Drucker, Tom Peters, Jim Collins, and Peter Senge have demonstrated in their research and writing over the years, achieving consistent excellence is extraordinarily difficult and rare. Excellence, where it does occur, is a result of culture rather than just processes. Every company and every process is subject to the laws of entropy—things simply degrade over time. That can happen because people grow complacent or because circumstances change and yesterday's solutions no longer apply in today's context. For many companies, performance declines as a company grows beyond its founders and their passion.

The only way to combat the pervasive disease of entropy is culture—building an organization that constantly renews its commitment to excellence and to its core principles, an organization that can instill those principles and the founders' passion in each new generation of employees and leaders.

As demonstrated by its remarkably consistent growth and profitability, Toyota has built a culture that does exactly that. For most of Toyota's history, that culture was not formally codified or given an official name. It was simply handed down from employee to employee—a process that was possible because all of Toyota's leaders had spent their entire careers at the company. The model for training was the master-apprentice relationship. As Toyota grew globally, though, spreading the culture one-on-one with daily mentoring was not enough. There simply were not enough master trainers who had grown up in the culture available for all the new hires. In 2001, then president Fujio Cho, a student of Ohno and the first president of Toyota's Georgetown, Kentucky, plant, introduced the document formally defining the Toyota Way. This wasn't a new direction for Toyota; it was a codification of the culture that had been created by Sakichi and Kiichiro Toyoda and extended by leaders like Taiichi Ohno.

The Toyota Way 2001, as it is still called, is defined as a house with two pillars—respect for people and continuous improvement. Respect for people extends from the team members on the shop floor to every one of Toyota's vast network of partners and out to its customers and to the communities in which Toyota does business. Continuous improvement literally means continually improving products, processes, and even people at all levels of the organization. Some versions of the model show respect for people as the foundation of continuous improvement, since only highly developed people who care passionately about their work and about the company will put in the effort needed for continuous improvement. The twin pillars of respect for people and continuous improvement rest on a foundation of five core values that we summarize here.*

Spirit of Challenge

Toyota was founded on the willingness to tackle tough problems and work at them until they were solved. That was Sakichi Toyoda's approach to looms and Kiichiro Toyoda's approach to building a car company from scratch. Like the two founding Toyodas, every Toyota employee is expected not just to excel in his current role, but to take on the challenges of making needed improvements with enthusiasm. As *The Toyota Way 2001* puts it, "We accept challenges with a creative spirit and the courage to realize our own dreams without losing drive or energy."

Kaizen *Mind*

Kaizen is a mandate to constantly improve performance. *Kaizen* is now a fairly famous concept, and the term will be familiar to many readers. But the vast majority of people, we've found,

* The quotes in this section come from *The Toyota Way 2001*.

misunderstand *kaizen*. Too often it has come to mean assembling a special team to tackle a discrete improvement project, or perhaps organizing a *kaizen* "event" for a week to make a burst of changes. At Toyota, *kaizen* isn't a set of projects or special events. It's the way people in the company think at the most fundamental level, harking back to Deming's never-ending PDCA cycle.

There are two types of *kaizen*. The first is maintenance *kaizen*, the daily work of dealing with an unpredictable world. Maintenance *kaizen* is the process of reacting to the inevitable (some might call it Murphy's Law) mistakes, breakdowns, changes, and variations of everyday life in order to meet today's expected standard (for productivity, quality, cost, and safety).

Visitors to Toyota plants are often surprised by the high level of activity—including the responses to the frequent pull of an *andon* cord by team members on the production line throughout the plant at the first sign of any out-of-standard conditions. This intense activity and the problem solving that results is largely maintenance *kaizen*. Since these problems have the potential to shut down the line, maintenance *kaizen* is urgent and immediate, with the goal of bringing conditions back to the standard.

The second type of kaizen is improvement *kaizen*. This is the work of not just maintaining standards but raising the bar. Toyota inculcates in all employees the idea that the goal is perfection, and therefore that every process can be improved.

One of the core misunderstandings is how much effort Toyota puts into improvement *kaizen* on a daily basis. Many outsiders expect Toyota to have perfected most of its processes—after decades of *kaizen*, there can't be much room left for improvement, they reason. Fighting this perception, even among Toyota employees, is perhaps one of the reasons that "*kaizen* mind" is a core value of Toyota. You can't maintain the gains from a lean

approach unless you focus relentlessly on continually improving all processes. As Taiichi Ohno would preach, no matter how many times it has been improved, every step in the production line is full of waste, and even if it is perfect today, conditions will change tomorrow, and waste will creep in. At the root of *kaizen* is the truth that nothing is perfect and everything can be improved.

This value and way of thinking often lead to misunderstanding of Toyota in the popular media. Throughout Toyota's history, you'll see statements from executives that the firm needs to "get back to basics." Fujio Cho would even say in speeches that the company has to "reinvent itself." These statements are usually interpreted as admissions of major corporate decline. Having a *kaizen* mind, though, means that it is always appropriate to go back to basics, to renew the focus on quality, and to critically evaluate today's condition, no matter how good you are compared to the past.

Genchi Genbutsu, *or Go and See to Deeply Understand*

It would seem that going to see something firsthand is simply a practical matter—although one that is infrequently practiced in most firms—rather than a value. The value of *genchi genbutsu* isn't just the specific act of going and seeing, but the philosophy of how leaders make decisions. In this sense, there are two main aspects of *genchi genbutsu*. First, decisions are made based on observed facts about the issue rather than on hunches, assumptions, or perceptions. The expectation is that no problem or issue will be addressed without the firm grasp of facts that comes from seeing and living with that issue firsthand. Second, decisions should be put into the hands of those who are closest to the problem, those who have gone to see it and who have a deep understanding

of its causes and the impact of proposed solutions. The role of more senior leaders is not to judge the solution of those close to the problem as much as it is to judge the problem-solving process used to arrive at the proposed solution.

Teamwork

Most companies say that teamwork is critical to success, but saying this is much easier than living it. Dig a bit below the surface in most areas of human endeavor, whether it's a company or a sports team, and you'll find that people talk about teamwork, but are interested first in their individual accomplishments. At Toyota, the view that individual success can happen only within the team and that teams benefit from the personal growth of individuals is built into the promotion process (which focuses heavily on team behavior) and incentives for performance (where individual incentives are only a small component, while team-based incentives predominate). Teamwork does not mean that individuals are not responsible. Critical to Toyota's success is single-point accountability—one person's name goes up next to each item in an action plan. But in order to succeed, the individual responsible must work with the team, drawing on its collective talents, listening closely to all team members' opinions, working to build consensus, and ultimately giving any credit for success to the team.

Respect

In many ways, this is the most fundamental of the core values. Respect is a broader concept than the pillar of Respect for People, starting with the desire to contribute to society through producing the best possible products and services. This extends to respect for the community, customers, employees, and all business

partners. It means that every Toyota team member must take responsibility for his actions and their effects on others.

One of the underappreciated facets of TPS is how it feeds into the Toyota Way and vice versa. It's one thing to say that the Toyota culture embraces the spirit of challenge. It's quite another to make sure that challenges are perpetually in front of everyone in the company. TPS deliberately creates a steady flow of challenges. This might seem odd—most companies have a hard enough time dealing with the challenges presented to them by demanding customers, evolving markets, and aggressive competitors. But one of the things that Taiichi Ohno understood about just-in-time production was that with so little inventory, there was no room for error. That's why standardized work and a systematic problem-solving process were imperative for the company. When you have inventory on hand, if a machine goes down or a process is operating at less than full efficiency, you have a buffer. But when you're operating in a just-in-time environment throughout the company, any hiccup rapidly reverberates up and down the production line. That means that you can't get by just slapping Band-Aids on problems or even with "good enough" solutions to a problem. The rest of the production line depends on problems being solved at the root cause so that they do not return.

That, in turn, is a driver for *kaizen* mind. Toyota needs every employee to always be thinking about how to improve processes—continuous improvement—just to keep up with the demands of TPS on a daily basis. Of course, it also requires willingness to "go and see" problems to make continuous improvement a living reality, teamwork so that solutions to problems work together to create a better whole. All of this, though, ultimately requires a culture of respect for employees, no matter what their level within the company. Executives and "lean

experts" can never provide the amount and level of problem solving that is required if TPS is to function smoothly. Every team on the production line has to be doing effective problem solving every day.

That means that Toyota has to invest in team members so that they can *be* problem solvers and respect the solutions that the team members find. The expertise in using TPS and TBP for solving problems that even average team members have makes them the company's most valuable asset. Losing employees, for whatever reason, literally undermines the business model. It is no different from capital assets walking out the door. In general, the phrase *human capital* seems to demean human beings, lumping them in with machines and money in an undifferentiated mass. But at Toyota, the capital really is human. Machines can be replaced quickly. A team member with 10 years of experience in TPS and TBP can be replaced only by spending 10 years investing in the training of another employee. People are not the biggest bucket of variable cost at the company, they are the largest bucket of appreciating assets.

Growing to Lead in the United States and the World

The combination of TPS, TBP, and the culture of the Toyota Way is the competitive advantage that allowed Toyota to become the largest carmaker in Japan and expand into other markets in Asia. But in the 1960s, the combined Asian markets were easily dwarfed by the U.S. market.

When Toyota began planning to enter the U.S. market in the late 1950s, its strategy would have seemed laughable to anyone

outside the company. Confront the biggest, most experienced carmakers in the world on their home turf? That perception was given even more credibility when Toyota's first attempt at selling a car in the United States was the disastrous Toyopet Crown, which was first imported to California. The car seemed to work fine by Japanese standards of the time, but it barely had the power to get up California hills. It was hastily recalled, and the few hundred that had been sold were shipped back to Japan until they could be upgraded. But Toyota returned to the U.S. market with better vehicles, ones more suited to American roads. By 1970, Toyota was the number two import plate in the United States, behind VW. Toyota got a further boost when the 1973 oil embargo created gas shortages and Americans began scrambling to buy small, fuel-efficient cars.

A small position in the U.S. market was never going to be enough, however. Senior executives at Toyota realized that if the company did not become a significant player in the United States, it would never have the size and scale necessary to permanently fend off the big American companies in any other market. But scaling in the United States would require producing cars in the United States—the company couldn't achieve its goal of being a top contender in the American market if it had to ship all the vehicles it sold across the Pacific. Producing cars outside of Japan was an uncertain prospect. Toyota's success was built on its unique culture and approach. No one knew if the Toyota Way and TPS could work outside Japan with workers from other countries who had not spent their whole careers immersed in the culture.

Toyota decided that the least risky path for testing TPS with American workers was a joint venture with an American manufacturer. Toyota knew that it had to lead the way in introducing TPS, but a joint venture partner could provide needed expertise in working with American suppliers and with the general

American financial and regulatory system. A joint venture was formed with GM in 1983, and a shuttered GM plant in California was reopened and named New United Motor Manufacturing, Inc. (NUMMI). The agreement with GM specified that the plant would build Chevy Novas; Toyota would be responsible for engineering and production, while GM provided the facility, supplier relationships, and capital. GM would get small, high-quality cars in its lineup, and Toyota would have a low-risk way to learn how to build its culture in the United States.

Given all the uncertainties—the first time TPS had been tried with a unionized American workforce,* the first joint venture between Toyota and GM—NUMMI was a huge risk, and success was by no means assured. The project was supervised by Tatsuro Toyoda, one of Kiichiro's sons and later president and then chairman of Toyota.

As it turned out, NUMMI was a huge success. Comparisons to an established GM small car plant in Framingham, Massachusetts, found that it took 19 hours to assemble a car at NUMMI compared to 31 hours at the GM plant, and with one-third the defects along the way. NUMMI had 80 percent less inventory, and its performance in its first year of production was comparable to that of its parent plant in Japan.† Toyota's ability to generate such high levels of quality and productivity in an American plant with American workers was what truly brought its revolutionary approach to manufacturing to the world's attention.

* Indeed, one of the reasons that the plant had been closed when it was GM-owned was that the local workforce was the worst in the United States in quality and basic discipline. Yet, as a condition of reopening the plant, the collective bargaining agreement required that 80 percent of these workers be rehired.

† Statistics are taken from James P. Womack, Daniel T. Jones, and Daniel Roos, *The Machine That Changed the World* (New York: Rawsons Associates, 1990).

NUMMI was a large part of the basis for the bestselling book *The Machine That Changed the World*, which introduced the term *lean manufacturing* to describe Toyota's approach as a new paradigm, as important as the shift from craft to mass production.

NUMMI was also successful enough to convince Toyota that it could expand production in North America. Just a few years later, Toyota announced its first wholly owned North American production facility, to be built in Georgetown, Kentucky. From there, Toyota went from success to success. The new facility, known as Toyota Motor Manufacturing Kentucky, racked up quality award after quality award. Meanwhile, Toyota's market share steadily grew. Each new product that the company introduced quickly became a leader in its category in terms of both quality and sales.

During the 1990s, Toyota was steadily gaining market share on GM. By the turn of the century, everyone saw the handwriting on the wall. Before long, Toyota would overcome GM as the world's leading car company. The only question was when. That was the context for Global Vision 2010, Toyota's vision for the decade, publicly announced in 2002.

At Toyota, setting companywide goals and 10-year strategies is the task of the most senior executives and the board of directors, as it is at any company. But that group at Toyota is unique—the board of directors is nearly 30 strong and is made up almost entirely of current and former executives. Every executive vice president of TMC is a member of the board, and former presidents remain on the board after they step down. So the companywide goals are not set by the current president and a small circle of advisors. Setting these goals is a consensus process that includes current, former, and future chief executives (who are always lifetime employees of Toyota), along with the senior leaders who are running the business daily around the world.

The high-level goals for 2010 included becoming more environmentally friendly in both vehicles and operations, creating innovative and exciting new vehicles, and becoming "the most admired automotive company in the world." These goals are fairly vague, of course, and they were broken down into targets related to profitability, quality, average fuel economy, and market share—specifically, in this case, 15 percent global market share, a figure that would push Toyota past GM as the world's largest automobile manufacturer. It was an audacious target that required almost doubling the size of the company, although in 2002, few doubted Toyota's ability to achieve it.

From 2002 to 2007, everything seemed very much on course. In fact, 2003 to 2007 was the most profitable five years in the company's history. At the beginning of 2008, Toyota was sprinting toward achieving its Global Vision 2010 goals. In North America, for instance, Toyota's aggressive push into the stronghold of American carmakers with vehicles like the Tundra full-size truck and the Sequoia, Highlander, and RAV4 SUVs was met with great success, success that was exceeded only by the wild popularity of the Prius hybrid. Shortly after bringing out the Tundra, Toyota announced that it would build a factory complex in San Antonio, Texas, to build Tundras in tandem with the original plant in Indiana (known as TMMI) where it was launched. In addition, new plants had opened or were planned in Ontario, Canada; Blue Springs, Mississippi; and Baja, Mexico. Certainly, investing in new plants in the United States and Canada while most of manufacturing was fleeing the country to low-wage developing economies set Toyota apart.

In 2008, the Camry was the best-selling vehicle in the United States, the eleventh time in 12 years that the car had won the sales crown. Lexus has also been the best-selling luxury brand more years than not since the turn of the millennium.

In the wake of crises to come, many pundits suggest that Toyota was growing too fast during this period, introducing quality problems and weakening the culture. But just before the recall crisis, in 2009, there was no sign of a slippage in quality: Toyota brands won 10 of the coveted J.D. Power initial quality awards for the best vehicles in a segment—more than any other automaker. The Toyota assembly plant in Higashi-Fuji, Japan, received the Platinum Plant Quality Award for producing vehicles yielding the fewest defects and malfunctions, averaging just 29 problems per 100 vehicles, while the industry average in 2009 was 108 problems per 100. *Consumer Reports* 2009 reliability rankings (which necessarily are looking at the prior year's vehicles) found that three of the five most reliable brands were Toyota makes (Toyota, Scion, and Lexus). The Prius was the most satisfying overall car. Lexus was the overall best in reliability (for the eighth time in 20 years), and the Sienna minivan was the top-rated nonluxury car.

Then, with the summit within reach and every part of the company seemingly stronger than it had ever been before, Toyota suddenly confronted one of the most difficult periods in its history. From the oil price spike in the spring and summer of 2008, to the Great Recession, to serious allegations of major safety and quality problems in the United States leading to the recall of millions of vehicles, the challenges, both external and self-inflicted, just kept coming.

How Toyota rose to those challenges and turned them into opportunities for continuous improvement is the story that we'll tell in the next three chapters. It's an important story for anyone who wants to be prepared when a crisis strikes, whatever its source. It sheds new light on how even the best will stumble—and what the best need to do to recover when they do.