

## **Part One**

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# **What Is Toyota Culture?**

*Each person fulfilling his or her duties to the utmost can generate great power when gathered together, and a chain of such power can generate a ring of power.*

—Kiichiro Toyoda, Toyota Motor Company founder

## Chapter I

# The DNA of Toyota Lies in Its Culture

*Just yesterday I spent a whole day with 30 of our young executives. At least 50 percent of them were from outside Japan. They had broken up into teams to tackle different problems, and they made presentations based on what they had learned about using the Toyota Way to tackle them. When I asked, many of them said they were now able to understand the Toyota Way fully. That's totally wrong. Two or three months isn't a long enough period for anyone to understand the Toyota Way. The managers may have understood what's on the surface, but what lies beneath is far greater. I asked them to explore that. There's no end to the process of learning about the Toyota Way. I don't think I have a complete understanding even today, and I have worked for the company for 43 years.<sup>1</sup>*

—Katsuaki Watanabe, president, Toyota Motor Corporation

## WHY ARE LEAN AND SIX SIGMA PROGRAMS NOT ENOUGH?

Companies throughout the world are trying to find a way to get their employees engaged in improving processes. Some have used six sigma as a program to develop experts in statistical problem solving, while others have concluded they need to “lean out processes” from the bottom up using simpler concepts of pull and flow and invested in lean programs. A more recent trend is using a lean six sigma program, which is seen as the best of both worlds. Lean tools are taught at the working level because they are simpler to understand and lead to quick wins while six sigma black belts lead complex, more involved, several month-long projects to drive the bigger dollar savings. These programs certainly are effective in driving down costs, and many companies tally up the cost savings to impress investors with the large numbers. Unfortunately there is usually something missing in these lean six sigma efforts.

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<sup>1</sup> “Lessons from Toyota’s Long Drive,” *Harvard Business Review*, July-August, 2007, pp. 74–83.

Ask someone deeply trained in the Toyota Production System (TPS) to visit those “lean operations” and they are likely to give them low ratings. The TPS expert will not look at the charts and graphs of the six sigma projects or the impressive cost savings. They will go right to the *gemba*—where the work is done—and walk the process. They will look for interruptions in flow—waste. They will observe people doing the work to see if they are following a repeatable standard process. They will also look for evidence of quality problems such as repair bays. If they see material flowing smoothly through the plant from start to finish in a steady cadence and people actively engaged in doing value-added work based on a defined pace (called *takt* time) they will be very impressed. They will be even more impressed if there is evidence of visual management showing at a glance the state of the operation and whether processes are in standard. However, the most impressive thing will be seeing evidence of people on the floor actively engaged in daily problem solving. Unfortunately we rarely see much evidence of any of these things. The charts and graphs look great in the conference-room presentations, but the reality of the shop floor is far from the TPS ideal.

From the time Toyota first started its operation, the leaders believed that the key to success was investment in its people. The Toyota culture has evolved since the company’s founding and is the core competence of the company. It is the reason why operations are lean, cars hit the market on time and on budget, chief engineers developing cars deeply understand the customer, company executives anticipate long-term trends and have clear strategies, and every employee (called team members) is vigorously working on achieving the annual plan of the company. The Toyota Way is first and foremost about culture—the way people think and behave is deeply rooted in the company philosophy and its principles. At the core it is about respect for people and continuous improvement, and this has not changed since the company’s founding.

Almost every company president talks about culture and asserts that people are their most important resource, but do they believe it? Given the opportunity to go from paying \$25 per hour to \$1 per hour in a low-wage country, how many company executives would consider reestablishing their companies in unfamiliar, but more economically friendly terrain? After the standard hiring process and an employee training program, the company would be in business in their new locale, but would this be enough to imprint their company’s existing culture on the new hires? Would management even know exactly what company culture they were trying to imprint?

When Toyota sets up shop in a new country, they carefully study the local community and determine how best to develop the Toyota culture in that environment. From past experience, they have learned that it requires both time and patience. It took about 15 years at Toyota Motor Manufacturing in Georgetown, Kentucky—the first wholly owned Toyota assembly plant in the U.S (referred to throughout this book as TMMK). Even though Toyota prides itself on being

a learning organization and has shortened the time it takes to build its culture elsewhere, it still takes years to develop.

Many companies have become frustrated with *kaizen* events and six sigma projects that yielded great short-term results but had no sustainability. They are searching for something more, and we believe the missing element that creates long-term results is the Toyota culture. And while Toyota's version of its culture varies from country to country or even from community to community, there is an important core set of principles and practices at work that any company can learn from. This book describes and examines the DNA of the Toyota culture.

## WHAT IS CULTURE? (IT'S ALL IN OUR HEADS)

Before we get ahead of ourselves we should pause and reflect on the often invoked word "culture." We frequently hear managers say things like "It's all about culture." "It's a people issue." "The tools are the easy part; the culture change is the hard part." "Lean works in Japanese culture where it was created, but not in our culture." On the positive side, statements like these reflect one's understanding of the importance of culture and its integral role in turning an organization into an effective company. The downside is that different people have different interpretations of the word "culture."

Every year in coauthor Liker's course on work organizations, student teams are asked to conduct interviews in real organizations in order to understand their business objectives and internal organization. One team had conducted interviews at a local company and reported back that they had a problem in writing the required paper, explaining that, "The company we are studying does not have a culture. They are relatively new and have not written down their mission statement and do not have company social events. They give out a turkey on Thanksgiving, but that is about it." Every year students struggle to identify the culture of the organization beyond its most superficial characteristics. Why is this task so hard?

It's hard because we have to decipher what is in people's heads. When confronted with a new culture, anthropologists start by simply observing how people live. They see many artifacts. They watch how people interact. They might witness deferential behavior indicating a status hierarchy and then they begin to piece together a story about the culture. Finally, they listen to the people; their questions become a way to get into their subjects' heads and more deeply understand what this community believes and values.

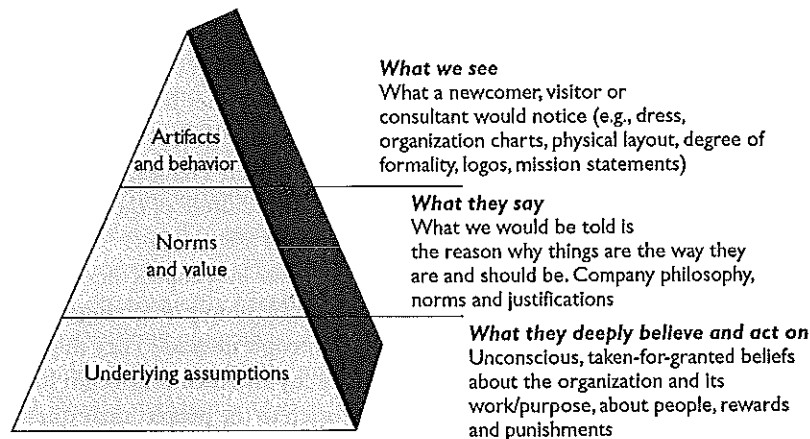
One useful definition of culture that fits well with what the Toyota Way is about is:

*...The pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external*

*adaptation and internal integration, and that have worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.<sup>2</sup>*

From this definition we see that culture goes deep into how all members of the organization perceive, think and even feel. There are many models that illustrate that culture exists at multiple levels. In *The Toyota Way* (2004) we used an iceberg to illustrate that what is seen above the surface is only one aspect of culture. Most of the iceberg is below the water and this is where the deeper aspects of culture reside. A model by Schein (1984)<sup>3</sup> shows three levels of a pyramid (see Figure 1.1), which are:

1. **Artifacts and Behavior.** Artifacts and behavior are what is seen at the surface level. This is what an anthropologist first observes. At this level we see objects, the physical layout of the workplace, how people behave, and written documents such as policy manuals. These observations are valuable but don't tell the whole story. Take for example Toyota's *andon* system, which is often associated with stopping to fix quality problems. (The andon is the light that goes on when a worker pulls the cord to stop the line.) Does Toyota want everything to stop to fix such problems each time they occur? To understand the significance of artifacts like the andon system, we must dig deeper into the culture and study the shared norms and values of people at work.



**Figure 1.1** Three Levels of Culture

<sup>2</sup> Schein, Edgar. "Coming to a new awareness of organizational culture," *Sloan Management Review*, Winter 1984, Vol. 25, No. 2, pp. 3-16.

<sup>3</sup> Ibid.

2. **Norms and Values.** Norms are generally accepted rules of behavior. They are not necessarily written down, but “everyone knows” basic rules of behavior like how to dress, what is appropriate to say, if it is acceptable to be late to a meeting, and if it is okay to interrupt the boss. “Values” are the principles we live by. When asked what a company stands for, one normally describes an understanding of the organization’s professed values. Looking more deeply at the andon system, we find it reflects the Toyota value of surfacing problems to continually improve the system. Any worker can pull the cord, which causes a light to turn on and distinctive music to play. The team leader is expected to be on the spot almost immediately to diagnose the severity of the problem, and to hopefully override the system by pulling the cord again before the line actually stops. If the problem is serious enough, the team leader will not pull the cord (and thus not override the team-member pull) and production will stop. If a Toyota leader was asked why they allowed the line to stop, she might make the point that the value the organization places on quality is higher than hitting production numbers.
3. **Underlying Assumptions.** Deep down, what do we assume about the nature of the organization and our role in it? Do we believe that the role of the employee is to do their best to help the organization become successful? Do we assume that management has its own interests that are in conflict with ours causing us to struggle every day to defend ourselves? Do we believe that work is a means to make money to live or is it a means of contributing to society? Often our assumptions run so deep that we cannot imagine anything different, like for example when we use the phrase “It is human nature.” Some assumptions are in our subconscious and are difficult to articulate. Some we may not even be aware of. For example, in American society if asked why people desire to advance in their careers and make a lot of money, people are apt to shrug or laugh. “Isn’t it obvious?” they might say, “Doesn’t everyone want money and success?” When something seems obvious, the cultural analyst senses a deeply held assumption at work. One of the underlying suppositions in the andon system is that people need the support of others to solve daily production problems. If workers are left on their own, they may get through the day but will not really be able to solve problems at the root cause. Another underlying assumption is that the production worker’s key role is to identify and call attention to problems even if it leads to stopping production. This requires an environment of trust in which there is no question whether pulling the andon is the right choice; workers must not fear a reprimand and, in fact, may receive praise for identifying a problem.

One story as told to us by Tom Zawacki, General Manager, General Administration, TMMK, illustrates the difficulties outsiders can have deciphering the deeper culture:

*Former Ford President Red Polling wanted a tour of TMMK and to talk to executives. Mr. Cho agreed and made the arrangements. Mr. Cho was very respectful of Polling and his position and remembered the contributions Ford made in the early development of Toyota. Polling showed up with a large entourage from Ford and went on a special tour set up just for them. They could go wherever they wished and ask any questions. After an hour and a half Mr. Cho asked, "What do you think?" Polling said: "I did not see anything unusual." Mr. Cho asked if he had any suggestions and Polling made a few suggestions. It was clear that Mr. Polling was disappointed by the visit and did not see what he expected. After the visit Mr. Cho called together his team that had arranged the tour and said, "We learned a very valuable lesson today. We have the same equipment and systems as Ford, but what Mr. Polling did not see was our competitive advantage, which is our people. We are successful because we have intelligent, caring, highly successful team members."*

Thousands of people visit Toyota plants every year and make observations at both the artifact and behavioral level. They then have an opportunity to ask some questions. We have been on many such tours at the Georgetown, Kentucky plant with groups and have observed frequently that the Q&A regarding Toyota's approach remains at the artifact and behavioral level. Questions are often:

- What types of monetary rewards do employees get for building quality products?
- How do you measure performance?
- What is the level of absenteeism?
- Do people object to having to work overtime without a lot of notice?
- How does Toyota get people to make so many suggestions every year?

While Toyota's formal reward and punishment system is certainly interesting, it is only part of the story. The questions visitors tend to ask tell us more about the culture of the visitors than about Toyota! We learned that the visitors come from a culture where they believe the primary way to elicit desired behavior is through formal reward and punishment systems. They cannot imagine why anyone would do anything unless it is measured and delivers an immediate cash reward, or at least a tick mark on their performance evaluation report.

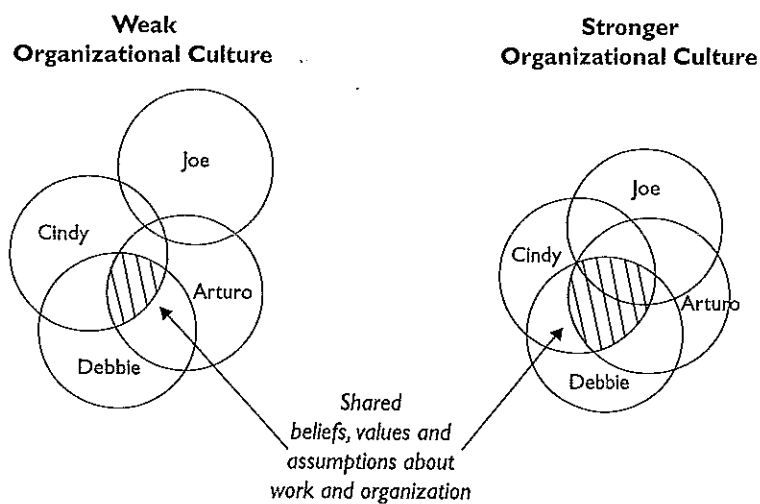
At Toyota there are small rewards at the team level and the potential of more significant bonuses shared by everyone if the plant and company perform well.

Delving deeper into the values and assumptions of the Toyota culture, we can see this approach reflects the value placed on teamwork. More broadly, Toyota wants its team members to develop the highest level of accountability and ownership and as such to understand that their fate is tied to that of the company.

If we think of organizational culture in terms of Venn diagrams, it is the shared beliefs, values, and assumptions that tie individuals together at work. The organizational culture in the Venn diagram to the left in Figure 1.2 is weak. The four individuals share very little and Joe in particular is an outsider with little in common with the others in terms of his values and beliefs about work. In the right-hand diagram the organizational culture is much stronger and more cohesive despite the personal differences. Notice that even in the strong culture, each individual has his or her own beliefs, values, and assumptions about work that are not shared across the group; note that the circles do not completely overlap.

If you were to draw a Venn diagram depicting Toyota leaders, you would find a great deal of overlap in beliefs in terms of the company's core values and the right way to manage people. As you move to the level of individual workers, we suspect there would be more variation in values and beliefs but still a strong common thread.

Dating back to founder Sakichi Toyoda, Toyota leaders have taught the Toyota Way to all of their team members. A strong assumption within Toyota's culture is that managers are leaders and leaders are teachers. This is something you cannot easily see simply touring a Toyota plant. The most important job of



**FIGURE 1.2** Organization Culture Is the Shared Beliefs, Values, and Assumptions between People Working toward a Common Purpose



the manager is to teach young members Toyota's way of defining, analyzing, communicating, and solving problems. All of the authors of this book who worked for Toyota were assigned full-time "trainers" to teach on-the-job, day-by-day, over many years, how to think and act in the Toyota Way. We know of few companies in the world who teach their approach and deeply socialize employees so rigorously and consistently over time.

## PEOPLE ARE THE HEART AND SOUL OF THE TOYOTA WAY

The Toyota Way has been evolving within Toyota since the company's birth as a producer of automatic looms in 1926. Founder, Sakichi Toyoda, based the original Toyoda Automatic Loom Works on deeply held beliefs that concerned both the purpose of the company and how all of their members should be treated. His original reason for creating an easier-to-use wood loom was to help the women in his small farming community who were working their fingers to the bone. Expanding from this founding principle, the purpose of the company has always been twofold: to benefit society as well as their team members who make up the fabric of the company.

The Toyota story starts with Sakichi Toyoda, who grew up in the late 1800s in a remote farming community outside of Nagoya. At that time weaving was a major industry, and the Japanese government wishing to promote the development of small businesses, encouraged the creation of cottage industries, which subsequently spread across Japan. Small shops and mills that employed a handful of people—mostly housewives—was the norm. As the story goes, Sakichi was dissatisfied by the hard work he saw his mother, grandmother, and their friends putting into spinning and weaving, and wanted to find a better way to relieve them of this punishing labor.

This was an age in which inventors had to get their hands dirty. As an example, when Sakichi first developed a power loom, there was no power available to run the loom, so he next turned his attention to the problem of generating power. Steam engines were the most common source of power, so he bought a used steam engine and experimented with running the looms from this source. He figured out how to make this work by trial and error and by getting his hands dirty—an approach that would become part of the foundation of the Toyota Way. As Eiji Toyoda (1987)<sup>4</sup> later wrote:

*The looms didn't budge because the steam kept leaking. Faced with no other choice, they took the engine apart and found that the leaking was caused by*

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<sup>4</sup> Toyoda, Eiji, *Toyota: Fifty Years in Motion*, Kodansha America; 1st edition, 1987.

*worn piston rods. Although they knew that the problem could be remedied by turning the rods on a lathe, the mill was located in the middle of nowhere; there just weren't any lathes nearby. So they spent the whole night filing the rods down. When they put the steam engine back together again, it worked.*

Throughout his life, Sakichi was a doer, not a manager. He was a great engineer and was later referred to as Japan's "King of Inventors." While Japan sometimes is viewed as a country that copies the technology of others, Sakichi Toyoda was an innovator: he continuously improved his automatic looms and ultimately sold the rights of one to the Platt Brothers in England so he could help his son start up Toyota Motor Company to expand into the growing business of automotive production. He said to his son Kiichiro "Everyone should tackle some great project at least once in his life. I devoted most of my life to inventing new kinds of looms. Now it is your turn. You should make an effort to complete something that will benefit society."

This quote tells us much about Toyota culture. We get a sense of the influence of the Toyoda family as founders and leaders continuing today. We can feel the emotion underlying the company. It is not a business as much as a calling for the greater good and the engine driving it is continuous improvement.

Kiichiro was sent by his father to the prestigious Tokyo Imperial University to study mechanical engineering. He focused on engine technology. He was able to draw on the wealth of knowledge within Toyoda Automatic Loom Works on casting and machining metal parts. Despite his formal engineering education Kiichiro followed in his father's footsteps of learning by doing. Shoichiro Toyoda, son of Kiichiro, described his father as a "genuine engineer" who, "... gave genuine thought to an issue rather than rely on intuition. He always liked to accumulate facts. Before he made the decision to make an automobile engine he made a small engine. The cylinder block was the most difficult thing to cast, so he gained a lot of experience in that area and, based on the confidence he then had, he went ahead."<sup>5</sup>

Kiichiro Toyoda, like his father, was passionate about innovations, big and small. He was quoted as saying, "We are working on making better products by making improvements every day."

Kiichiro Toyoda's cousin, Eiji Toyoda, took over the company when Kiichiro took responsibility for the company's financial hardship in the 1940s and resigned. Eiji Toyoda led Toyota for decades through its most difficult times struggling to survive and through its most prosperous times growing it into a global company. He never wavered from his fundamental belief in what makes the company run,

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<sup>5</sup> Reingold, Edwin. *Toyota: People, Ideas, and the Challenge of the New*. London: Penguin Books, 1999.

“People are the most important asset of Toyota and the determinant of the rise and fall of Toyota.”

The Toyoda family members also seemed to have a knack for identifying talent from outside the family. A series of inspirational leaders have followed in their footsteps each making a unique and profound contribution to the development of Toyota as a company and as a culture. Taiichi Ohno is known for his leadership of the Toyota Production System. Famous chief engineers like Tatsuo Hasegawa who led the design of the first Corolla and Kenya Nakamura who headed up the first Crown program helped lead the creation of Toyota's remarkable product development system. Shotaro Kamiya was one of the inspirational leaders behind Toyota Motor Sale's obsession with “customer first.”

Contemporary leaders have continued the tradition of developing an internal culture focused on continuous improvement and respect for people and intensely focusing on making positive contributions to the world at large. We will learn later in this chapter about Fujio Cho and his passion for documenting and spreading the Toyota Way culture globally. His predecessor, Hiroshi Okuda, took every opportunity to emphasize the role of Toyota as a citizen of the world, “We wish to make Toyota not only strong but a universally admired company, winning the trust and respect of the world.”

Companies in many industries have been attempting to learn “best practice” approaches from Toyota, and are particularly interested in eliminating waste and developing lean processes that are efficient and reduce cost. Lean processes are part of the story at Toyota, but there is much more involved that allows Toyota to infuse quality into its corporate culture in locations around the world. While there have been many documented successes of duplicating aspects of Toyota, few organizations have approached creating the type of culture that enables Toyota to develop exceptional people relentless in their focus on continuous improvement. The challenges for these companies lie in their culture.

In this chapter we will argue that culture is multi-layered and is rooted in deeply held assumptions. These cultural assumptions differ across countries and can either support or impede a company's ability to learn from Toyota. You will see, for example, that Japanese culture is based on long-term thinking and collectivism where the individual is subordinate to the group, while the opposite is true in Western cultures where short-term thinking and individualism are much more prevalent. This does not mean Toyota culture does not work in Western countries, but that it is somewhat different and has its own set of challenges.

### ***The Toyota Way 2001 First Documented the Culture***

We are often asked whether any other company outside of Japan can learn from Toyota given its roots run so deep in Japanese culture. Interestingly, Toyota faced these same cultural challenges as they spread their operations throughout the

world. For most of its life, the company operated solely in Japan and created no written record of the Toyota Way. It simply was the way things were done throughout the organization; new members gradually became socialized into the culture through on-the-job exposure and training. Quotes from Toyota's founding members along with the company's rich oral tradition of values, beliefs, and stories were used to socialize employees into the Toyota Way, yet there were no operations or procedure manuals documenting its culture. As Toyota grew and began to teach the Toyota Way to its Japanese suppliers and then ultimately to its employees and suppliers around the world, there was an increasing need for a written record of its approach—oral tradition alone would not suffice. It took nearly ten years of writing and rewriting before *The Toyota Way 2001* was released under the watch of then-president Fujio Cho. In the preface, Cho wrote:

*The rapid growth, diversification and globalization of Toyota in the past decade have increased the scope of our company's manufacturing and marketing presence throughout the world. Today, having invested authority and responsibility in a worldwide network of executives, we are preparing to operate as a truly global company guided by a common corporate culture.*

Many people have learned about lean production as a set of methods for eliminating waste, and the house of the Toyota Production System (TPS) has become very popular. The Toyota Way model actually supersedes TPS and is, in fact, quite different in its emphasis. In TPS the core pillars are *just-in-time* and *jidoka* (intelligent automation)—both technical concepts. The foundation under the pillars emphasizes stability through standardized processes and preventative maintenance. People are at the center of the TPS house but most lean applications implemented outside of Toyota focus specifically on the tools used to take waste out of processes.

Figure 1.3 features the Toyota Way model as presented in the company's internal document. Note that the core pillars of the house focus on people: their continuous improvement and respect for others. Principles of JIT and other lean tools are in the model, but they are buried a layer down in the foundation (and not shown in the house at this level) as sub-methodologies supporting kaizen.

The way this model and document were created is itself telling about Toyota's culture. We get a glimpse into the passion about its unique culture and the role of consensus decision making. The project originally was led by Fujio Cho when he was President of TMMK for the simple purpose of documenting the Toyota Way, particularly to teach American managers. There was agreement that some form of documentation would be valuable as Toyota grew globally, but there was also concern about how to write down something as subtle and implicit as culture and something that was continually evolving. After twenty revisions, intense discussion and debate, and ten years of work, finally Fujio Cho said let's freeze it and call it

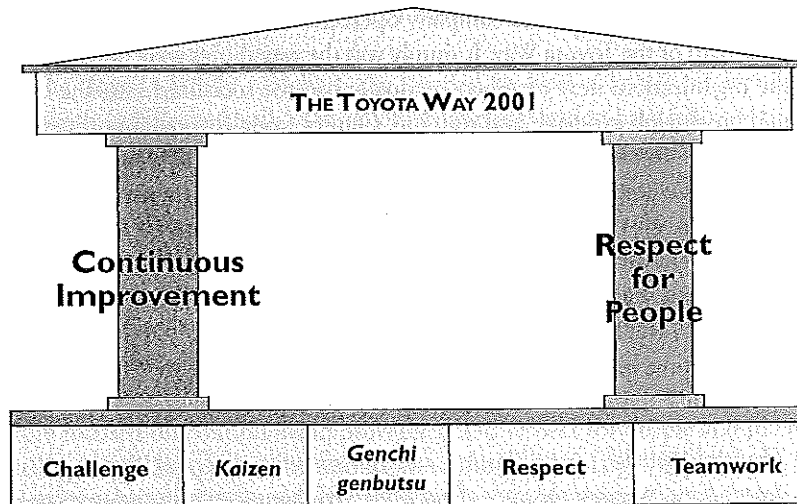


Figure 1.3 Toyota Way 2001

*The Toyota Way 2001.* He acknowledged that the Toyota Way would continue to change but this would be the 2001 version. Hiroyoshi Yoshiki helped Cho in establishing TMMK and recalls the struggles in writing this document:

*The creation of the Toyota Way 2001 took ten years. We started working on it in 1991. It was the first effort to explain to American executives Toyota principles. The Japan side could not really help because they never tried to articulate it. We created the first rough draft. Mr. Cho was here and we discussed it with Mr. Cho a lot. When Mr. Cho went back to Japan and became President of the whole company finally the Toyota Way came up. Before that we had 20 revised versions of the Toyota Way. We could not get 100 percent agreement. We finally agreed to call it The Toyota Way 2001 to acknowledge there is not 100 percent agreement on what the Toyota Way is and it is always changing.*

The document is thirteen pages in length. It explains the principles underlying the model in Figure 1.3 and liberally illustrates the thinking with “historical words.” It is worth briefly summarizing the high level concepts in Figure 1.3. At the top level are the two pillars, continuous improvement, respect for people and “all Toyota team members, at every level, are expected to use these two values in their daily work and interactions.”

Respect for people is a broad commitment. It means respect for all people touched by Toyota including employees, customers, investors, suppliers, dealers, the communities in which Toyota has operations, and society at large. Respect for people has sub-categories of “respect” and “teamwork” shown in the foundation of the house:

**Respect:** We respect others, make every effort to understand each other, take responsibility and do our best to build mutual trust.

**Teamwork:** We stimulate personal and professional growth, share the opportunities of development and maximize individual and team performance.

Continuous Improvement is the second pillar. Toyota leaders believe people who are continuously improving are what have allowed Toyota to grow from a small loom company in a farming community to a global powerhouse. Continuous improvement is defined as, "We are never satisfied with where we are and always improve our business by putting forth our best ideas and efforts."

There are three subcategories under "continuous improvement" that complete the foundation of the Toyota Way house:

**Challenge:** We form a long-term vision, meeting challenges with courage and creativity to realize our dreams.

**Kaizen:** We improve our business operations continuously, always driving for innovation and evolution.

**Genchi Genbutsu:** We practice *Genchi Genbutsu*—believing in going to the source to find the facts to make correct decisions, build consensus, and achieve goals at our best speed.

Below each of the five foundational concepts are further detailed concepts. For example, under kaizen are three subcategories: kaizen mind and innovative thinking, building lean systems and structure, and promoting organizational learning. It is interesting that Toyota has adopted the term lean that was originally coined in *The Machine That Changed the World*, a book that defined Toyota's approach to operational excellence as a new paradigm that is the next evolutionary step beyond mass production.<sup>6</sup> It is also interesting to note that "lean systems and structure" is buried two levels down in Toyota's model and not the focus.

Toyota has come a long way from its roots as a small startup making automatic looms. In the first quarter of 2007 it surpassed General Motors in quarterly sales for the first time in history, selling a total of 2.35 million vehicles worldwide. It is perhaps the most benchmarked company in the world for its famed production system and operational efficiency. With over 290,000 people, 523 subsidiary companies throughout the world, 19 overseas affiliates, and 52

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<sup>6</sup>The term "lean" was never historically used within Toyota. It was first introduced in *The Machine That Changed the World* as a way to describe the new paradigm of manufacturing that Toyota had developed that led to doing more with less. See Womack, James P., Daniel T. Jones, and Daniel Roos. *The Machine That Changed the World*. New York: Rawson Associates, 1990.

overseas manufacturing companies in 27 countries,<sup>7</sup> Toyota has had to quickly learn how to spread its culture.

The main challenge when expanding its operations around the globe is that the organization absolutely refuses to compromise the Toyota Way philosophy. It is Toyota's belief that without a strong Toyota Way culture in every part of the company globally, it will lose its competitive advantage.

## A DEEPER ANALYSIS OF CULTURE

The question of which world-class Japanese management practices can be exported to other countries has puzzled academics and companies for decades. An earlier book, *Remade in America*,<sup>8</sup> addressed the question of what happens to Japanese management systems when they are exported from Japan to America through Japanese direct investment. The answer: The hybrid culture that evolved in the United States is not an exact replica of that same Japanese company, though the result can still be highly effective.<sup>9</sup> The implication is that exporting a culture is much more difficult than it at first seems.

"Change management" has become a standard consulting package for some companies. It was particularly prevalent in the 1990s as part of packages offered by companies selling information system "solutions" intended to fix business processes. Change management is purchased to sell employees on the new business processes and IT systems they are expected to embrace. There are standard training packages and communication programs developed to pour into the employees a new way of thinking. When we listen to managers talk about changing people and culture it often sounds highly mechanistic. Changing culture in this way has been compared to playing a game of billiards where managers have the cue stick. The billiard ball model seems to reflect much of Western management's approach to effecting change within an organization.<sup>10</sup> Consider that

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<sup>7</sup> As of June 2006.

<sup>8</sup> Liker, Jeffrey K., W. Mark Fruin, and Paul S. Adler. (eds.), *Remade in America: Transplanting and Transforming Japanese Production Systems*, New York: Oxford University Press, 1999.

<sup>9</sup> Mary Yoko Brannen uses the term "recontextualization" to describe how the same items or concepts take on different meanings when brought into a different culture. Brannen, Mary Yoko, Jeffrey K. Liker and W. Mark Fruin, "Recontextualization and Factory-to-Factory Knowledge Transfer from Japan to the U.S.: The Case of NSK," in *Remade in America: Transplanting and Transforming Japanese Production Systems*, edited by Jeffrey K. Liker, W. Mark Fruin, and Paul S. Adler, New York: Oxford University Press, 1999: pp. 117-154.

<sup>10</sup> The billiard ball concept was shared with us by Mary Yoko Brannen who also introduced us to the concept of recontextualization, which describes how cultural artifacts take on new meanings when applied in different cultural settings.

aspect of the organization you wish to change as a billiard ball and assume you have an approach that will bring about improvement. If you hit the cue ball in the right place in the right way, it will set in motion a predictable process that leads to the desired result.

Any intervention can be thought of in this way. If workers are performing the same job in different ways and one desires a more efficient standardized process, send industrial engineers out to simply "implement standardized work." Hit the standardized work ball in the right place at the right angle. In other words, if we teach the right things—or implement the right tools—we will get the desired result whether it is productivity, quality, or cultural change.

In reality, systems involving people are complex, and information systems or communication alone will not change the overall process. To really effect a change in the process, you must change the people; people's beliefs and values are rooted in their culture.

Even the same tool or method can have a very different meaning in different cultural contexts. For example, one study credited Tokyo Disney's success in part to the intentional manipulations of Western cultural symbols.<sup>11</sup> In one scenario, this was done by making the exotic familiar while at the same time keeping the exotic, exotic. In an attempt to make the exotic familiar, Frontierland was renamed Westernland at Tokyo Disneyland. While the Japanese are familiar with the Old West through television Westerns, the word "frontier" holds no comparable meaning for them. As another example of making the exotic familiar, while Americans might think of the cowboy as the ultimate individualist who rides off into the sunset alone, in Disney Japan, cowboys are displayed participating in group activities (around camp fires for example) that better fit the Japanese collectivist culture. On the other hand, the exotic maintains its allure by reinforcing the differences between Japan and other countries. For example, non-Japanese employees speak only English and do not wear nametags. By understanding how the Japanese think about America, the Disney theme park was redesigned in subtle ways to appeal to their psyche.

Now let's consider what that means for managers who dream of learning from Toyota about how they, too, can dominate the competition. Maybe they hire a consultant and tour a Toyota plant where they see many interesting things. The factory is clean and organized, materials and tools are placed neatly in their places by the operator so that there is minimal wasted motion; the workers seem to know exactly what they need to do and work in a disciplined manner with tightly

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<sup>11</sup> Brannen, Mary Yoko, "Bwana Mickey: Constructing Cultural Consumption at Tokyo Disneyland," in *Remade in Japan: Consumer Tastes in a Changing Japan*, edited by Joseph Tobin. New Haven, CT: Yale University Press, 1992.



scripted movements. Andon cords hang by every operator which when pulled, signal some sort of out of standard condition, causing someone to come and help or the production line stops.

What actually happens with such managers is that they set up Toyota's tools and methods in their own culture, and they do not work the same way. It is like a body rejecting an incompatible heart transplant. They completely miss the real purpose of the tools. Instead of becoming powerful tools for continuous improvement that team members can use for decades to grow the company, they are taken out of context and become additional management controls used to reprimand employees. That's when lean is viewed as mean. As we will discuss through the course of this book, Toyota was not able to exactly transfer the original culture in Japan to other countries. The Toyota Way was changed to a new blended culture, however Toyota insisted on retaining the essential principles of the Toyota Way that are crucial for a successful outcome. In reality Toyota had to learn what was essential over time through trial and error and kaizen.

Different levels of cultures emerge as we move from nations to locales to the organizations in those regions to departmental groups and to the individuals in those groups. Figure 1.4 illustrates these many levels. A given factory exists within a company's culture as well as within the local and national cultures. The Toyota Way in the Georgetown, Kentucky plant will not be exactly the same as that in the Princeton, Indiana plant. The locales are different, the history is different, the people are different, and the succession of leaders is different.

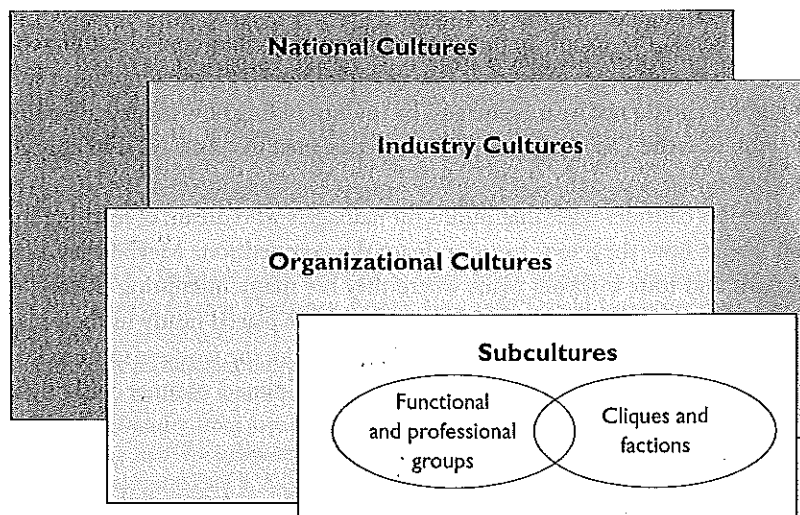


Figure 1.4 Cultures Are Nested at Multiple Levels

However, they both are located in the United States and have some things in common because of this heritage that differentiate them from the Japanese-born employees at Toyota who helped set up the plants and teach the Toyota Way. As part of Toyota, the team members in both the United States and Japan have a common culture that sets them apart from others in Indiana and Kentucky who work for other companies. We call this Toyota's organizational culture, which is sometimes also referred to as "work culture." There are many differences across individuals in their upbringing, beliefs, and personal values, and Toyota does not need to make everyone think the same way at this level. What is important to Toyota is that there are some core values and beliefs about how work gets done at Toyota that are deeply shared.

It would be a mistake to assume Toyota has perfected developing a uniform culture even within a given operation. There are subcultures that form naturally in a plant. For example, the subculture of plant floor managers is different from that of the human resource managers. Managers have a different subculture compared to production workers. Within production workers, as a group, there is a subculture of union advocates that is different from that which is not disposed toward unionizing.

Toyota works hard to develop a common culture across the company, even between the shop floor and the office. For example, Human Resource (HR) managers would have typically worked in the factory as shop floor managers. HR representatives, many of whom previously worked in production, are assigned to specific areas of the plant and are expected to spend the majority of their time in those areas of the plant to gauge the culture and develop team members. Spending the majority of your time in front of your computer, thereby isolating yourself from the people who perform the firm's value-added work, is alien to the Toyota Way.

Achieving strong alignment among the varying levels of culture is a difficult process that has been one of the main challenges for Toyota as the company has expanded globally. It begins with selecting employees and partners, and then extends to maximizing every opportunity to teach and socialize the team member into the organizational way of thinking. It takes years and is a career-long endeavor. Ultimately the ability to absorb the company's culture lies in people's heads, in how they think, act, and react to different circumstances. From a common American perspective we might think of this negatively as brainwashing. From Toyota's perspective this is building the DNA in all team members.

When Gary Convis was President of Toyota Manufacturing in Kentucky, he was asked how long it takes to teach a manager hired from outside the company to be a Toyota manager. His answer: "about ten years."<sup>12</sup> He explained that

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<sup>12</sup> Liker, Jeffrey K., *The Toyota Way: Fourteen Management Principles from the World's Greatest Manufacturer*, New York: McGraw-Hill, 2006, pg 295.

it is relatively easy to learn job knowledge, technical skills, quality and process requirements, etc. and the appropriate things to say, but it is another matter to actually behave the right way at all times. Often when people are under stress, they tend to revert to what they have known in the past such as yelling and micro-managing. Convis believes it takes about ten years for him to trust that while under stress the manager will behave appropriately using this as an opportunity for coaching and teaching. Consistently applying step-by-step problem-solving methods to daily problems supports the proper Toyota culture development. They don't want robots; they want problem solvers who can stabilize the shop floor so further kaizen and innovation can occur within the culture of continuous improvement and respect for people.

## **THE CHALLENGES OF TAKING CULTURE ACROSS BOUNDARIES**

In this book we use many examples from Toyota in America and particularly from TMMK. Several of the authors from the Center for Quality People and Organizations "cut their teeth" at this plant. They know the struggles Toyota had in developing the culture at that plant. When you look at the results after years of development, it looks easy. As they can attest, it was far from easy. A big part of the challenge is that Toyota's culture evolved in Japan where the culture is quite different from U.S. culture.

To understand how Toyota culture came about in Japan and the challenges of developing it in other countries, we need to understand cross-cultural differences. In this section we discuss these differences and particularly what it means for transferring the Toyota Way to the United States.

### **Cross-National Culture by the Numbers**

A starting point is looking at the numbers. One of the most rigorous quantitative studies of cross-national culture is the work of Geert Hofstede and his team members.<sup>13</sup> They did extensive surveys, interviews, and observations in over seventy different countries. Based on this research, they identified five "primary dimensions" that differentiate national cultures. Figure 1.5 presents data on these five dimensions for the United States, Japan, and an average of the world ratings. We define each of these dimensions and the implications for learning the Toyota Way across countries below:

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<sup>13</sup> Hofstede, Geert and Gert Jan Hofstede, *Cultures and Organizations: Software of the Mind*, New York: McGraw-Hill, 2004. The scores on the values can be viewed for any country or combination of countries at the Web site [www.geert-hofstede.com](http://www.geert-hofstede.com).

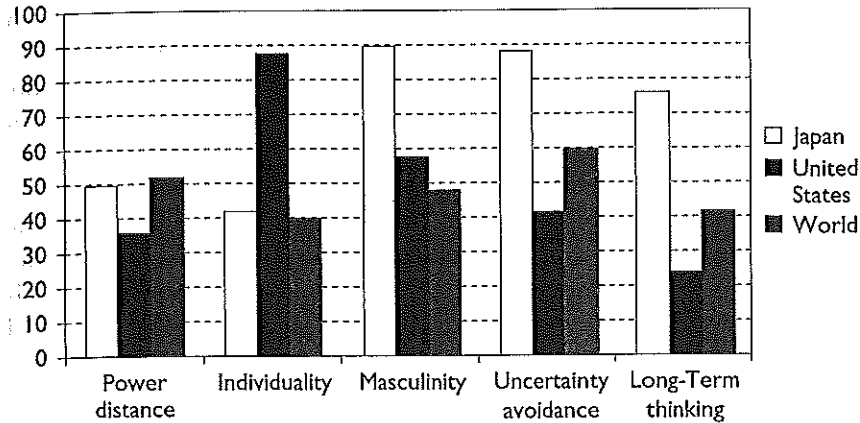


Figure 1.5 Hofstede Cultural Scores for Japan, U.S., and World Average.

**Power Distance:** This is the extent to which the less powerful members of the society expect and accept that power is distributed unequally. Note that this does not measure how dominant the powerful are in the society but rather the degree to which the people at the bottom of the hierarchy accept this power imbalance. Neither the United States nor Japan stand out markedly on this dimension compared to the world average though the United States is below average, meaning individuals near the bottom of the power hierarchy do not accept inequality. This could make it challenging to spread the standardized work and aggressive targets from the top that are characteristic of Toyota's system.

**Individuality:** On the other side of this continuum is "collectivism." This is the extent to which individuals are integrated into groups. In individualistic societies each individual looks after him or herself. In collectivist society, the individual belongs to highly cohesive groups that protect the individual in return for unquestioning loyalty to the group. The United States is one of only seven countries with individualism as the highest value of all cultural traits and all of these are Western countries. Japan is much more of a collectivist society. The Toyota Way emphasizes teamwork. The team comes before the individual. Statements like "I accomplished this" are strongly discouraged. One of Toyota's challenges has been to build this collectivist orientation in their American organizations.

**Masculinity:** This refers to the degree to which the society is dominated by male values, that have particularly assertive and competitive orientations. Both the United States and Japan are above average on masculinity, but Japan is off the charts on the degree of masculinity. Certainly Toyota grew up with male domination and for most of its years women played decidedly subordinate roles. This has recently changed in Japan with women finally functioning in professional roles as engineers and managers, however, it remains a rare occurrence. The United States

is also a bit above average in masculinity. Perhaps the masculine values of Japan have helped influence the strong value of competition within Toyota.

**Uncertainty Avoidance:** This addresses the society's tolerance for uncertainty and ambiguity. Societies strong in this category are uncomfortable with unstructured situations and prefer structure such as strict laws and rules. Japan is near the top of the world on uncertainty avoidance while the United States is considerably below average. Interestingly, even inside Japan the world-beating Toyota is known as a conservative, risk-averse company having been founded in the Aichi prefecture, which is known for its extreme thriftiness. The United States is known for an entrepreneurial spirit associated with people willing to take risks. In light of these contrasts, it is not surprising that the strict structure of standardized work seems natural for Toyota in Japan, while Americans voice strong fears of becoming shackled by rules and standards.

**Long-Term Orientation:** Countries that have a long-term orientation value thrift and perseverance. The foundation of the Toyota Way model is long-term thinking. Patience and perseverance are both highly valued within Toyota. In fact the biggest struggle we have observed in American companies wishing to learn from the Toyota Way is their short-term orientation and need for every action taken in the name of lean to pay for itself very quickly.

### East versus West Means a Different Way of Thinking

Cognitive psychologists have taken another look at East-West differences studying the different ways Eastern and Western people think.<sup>14</sup> These studies have found broad commonalities in ways of thinking between diverse Eastern countries like Japan, Korea, China, and Singapore, compared to modal ways of thinking in the West. Those of us who have been learning about Toyota for many years were struck by how well the East versus West differences help explain how Toyota is different from most Western companies seeking to learn from Toyota.

The story goes way back to Western philosophers like Aristotle and Plato and Eastern religions rooted in Buddhism, Taoism, and Confucianism. Nisbett<sup>15</sup> finds historical differences that seem very compatible with Hofstede's distinction between collectivism and individualism and writes:

*The Greeks, more than any other ancient peoples and in fact more than most people on the planet today, had a remarkable sense of personal agency—the sense that they were in charge of their own lives and free to act as they chose.*

<sup>14</sup> Nisbett, Richard E. *The Geography of Thought: How Asians and Westerners Think Differently...and Why*, New York: Free Press, 2003. This book is an excellent synthesis of many studies comparing how people from Eastern versus Western cultures think.

<sup>15</sup> *Ibid.*, pp. 2–3.

*One definition of happiness for the Greeks was that it consisted of being able to exercise their powers in pursuit of excellence in a life free from constraints.*

*The Chinese counterpart to this was harmony. Every Chinese was first and foremost a member of a collective, or rather of several collectives—the clan, the village, and especially the family. The individual was not, as for the Greeks, an encapsulated unit who maintained a unique identity across social settings.*

*The Chinese were concerned less with issues of control of others or the environment than with self-control, so as to minimize friction with others in the family and village and to make it easier to obey the requirements of the state, administered by magistrates. The ideal of happiness was not, as for the Greeks, a life allowing the free exercise of distinctive talents, but the satisfactions of a plain country life shared within a harmonious social network.*

In this sense Toyota fits well the underlying assumptions of Asian culture that emphasize harmony, membership in a collective, and at the same time an emphasis on self-control. For example, many companies have picked up on the concept of a kaizen event to drive improvement. A team of people is brought together for five days and analyzes an operation, comes up with ideas for improvement, and implements the improvements. A trained facilitator who is a “lean expert” is driving the group and leading them through the improvement process. On Friday the group reports out to management on the project, and results are often tallied to justify the costs of all the kaizen events. A similar approach is used at Toyota but it is called *jishuken* which means “voluntary self study.” In the Toyota approach there also is a trained facilitator but the facilitator is called the *sensei* or teacher. The sensei does not do anything except challenge the group and ask tough questions. The sensei often refuses to answer questions when the group wants to know “the right answer.” Individuals in the group are expected to be motivated to improve themselves through this activity and the sensei is a guide and coach for their self-improvement. The results are important as a reflection of the achievements of the group in learning, not as a justification for the cost of the event.

Looking even deeper than the level of how East versus West looks at groups and harmony there are some basic differences in cognition—how the world is looked at. The results of research studies comparing East and West show the following differences in basic cognition:<sup>16</sup>

- Patterns of attention and perception, with easterners attending more to environments and westerners attending more to objects, and easterners being more likely to detect relationships among events than westerners.
- Beliefs about controllability of the environment, with westerners believing in controllability more than easterners.

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<sup>16</sup> Ibid, p 44.

- Tacit assumptions about stability versus change, with westerners seeing stability where easterners see change.
- Preferred patterns of explanation for events, with westerners focusing on objects and easterners casting a broader net to include the environment.
- Use of formal logic rules, with westerners more inclined to see logical rules to understand events than easterners.

These differences are quite fundamental and help explain some of the ways westerners view lean compared to the intent within Toyota. The general tendency in the West is to view lean as a tool kit that can help control the work environment to achieve specific measurable objectives. We award “black belt” status to experts trained in the tools who go into the work place to get the results...much as a hunter goes into the jungle to bring back the kill. Six sigma is attractive because it suggests a very logical structure. In six sigma classes we have seen the instructor proudly write:  $Y = f(X)$ . That is, the outcome— $Y$ —is a function of a set of independent variables— $X$ . If you can identify and measure the independent variables you can improve the system. Essentially what is happening is we are objectifying the workplace and seeing simple cause and effect relationships while losing sight of the people and the complex dynamics of the environment.

When Toyota sensei look at improving the workplace they do not see a bunch of independent variables to be manipulated. They see a bunch of people working in a process that is filled with waste. Their goal is for the people to learn to see the waste as they do and learn to use clear and rigorous thinking and teamwork to solve problems thereby attacking the waste. They realize that most ideas for improvement are simply good guesses and need to be verified through experimentation, so they want many experiments to be run by many people working in the process who are constantly monitoring the results of the experiments and learning. The task of the sensei is to develop the people sufficiently to start this process moving and periodically come back to challenge the people to think even more deeply about problems.

### **Is the Toyota Way a Direct Reflection of Eastern Thinking?**

We are often asked whether the Toyota Way is unique to Toyota or a reflection of Japanese culture. That is akin to asking whether it is about national culture or company culture. The answer is both. Obviously Toyota is a Japanese company and the Toyota Way evolved in Japan. The fundamental differences in the way of thinking between East and West strongly influences the ability of Americans to learn from Toyota.

It is clear that the Toyota Way is more a reflection of Eastern culture than Western culture. Given this, one might ask: What stands out about Toyota? Is Toyota any different than other Japanese companies? If not, why is Toyota so much more successful than most other Japanese companies?

Toyota is a unique blend of Japanese culture, the special conditions of Aichi prefecture where Toyota was founded, the influence of the Toyoda family and the great leaders in Toyota's history, and particular characteristics of the auto industry. Toyota has always been a very independent company. "Self-reliance" is one of the core values of Toyota and they started out in the farming community of Aichi prefecture far from the big city. Toyota has always done it their way. Perhaps the farming mentality led Toyota to want to be financially and technologically independent. The origins as a company founded on innovation by great inventor Sakichi Toyoda may account for the adaptability and creativity throughout Toyota.

Perhaps because of the profound influence of Sakichi Toyoda, who believed in contributing to the group and society, but also was a brilliant individual inventor, Toyota seems to stand out in placing a high value on both group and individual achievements. The Asian view that the tallest nail will be pounded down speaks to the actual fear of being singled out for individual accomplishment in Japan. Toyota does not want the tallest nail to be pounded down. The creation of the Toyota Production System is a great example. Ohno was an unusually aggressive leader by Japanese standards and by Toyota standards. He believed in teamwork but in many ways he was more of a dictator than a team player. Ohno would always give credit to the team, but he was extremely strong willed and single minded in his vision for manufacturing. No one would stand in his way. Many of his actions created disharmony at Toyota and are very counter to the desire for harmony and consensus. He only managed to last in the company because of the personal sponsorship of Eiji Toyoda who saw something special in him. Step by step, Ohno developed the Toyota Production System. He pulled together ideas from many places—experiments with making looms, detailed study of Ford Motor company and Henry Ford's theories, the quality methods of W. Edwards Deming, the training methods of the American military, and many others. Ultimately this became a unique total system that has been adhered to religiously within Toyota. It was the drive of an individual genius, who was a nail who stood out, who created one of the greatest accomplishments of the twentieth century—the Toyota Production System.

There are similar stories in product development and sales. For example, in product development, the main driver of innovation and of achieving aggressive targets is the chief engineer who has a very strong personality and is revered within Toyota culture. The phrase "it is the chief engineer's car" is commonly heard giving tremendous credit to an individual who is presiding over the efforts of thousands of people.<sup>17</sup> Chief engineers are known to have strong and very

<sup>17</sup> See discussion of the "Michael Jordan" of chief engineers, Ichiro Suzuki, who led the design of the first Lexus in Jeffrey Liker, *The Toyota Way*, New York: McGraw-Hill, 2004.



different personalities, from calm and reflective who fit the Japan way to aggressive and demanding who would seem more at home in the West.

Toyota has also been unusually open to learning from the West and becoming a global company moving beyond their conservative local roots. Sakichi Toyoda admonished, "Open the window, it is a big world out there." Toyota has refused to be shackled by tradition, whether Japanese or otherwise. The company is about constantly challenging assumptions at the detailed level of work motions of the individual worker or at the level of corporate strategy. In the *Toyota Way 2001*, it states, "We continue to search for breakthroughs, refusing to be restrained by precedent or taboo."

Nonetheless, the Toyota Way is very rooted in Eastern culture. The challenge then becomes how can Toyota possibly bring the Toyota Way to Western countries when the basic cultural assumptions are in some cases antithetical to the local culture? The answer to the question is that Toyota has brought key aspects of the culture to the West with remarkable success through a process of experimenting, reflecting, and learning. This book addresses how they have managed to do this.

When considering all of these differences, one might think that it is impossible for Americans to follow the Toyota Way. It would be perfectly understandable if the early Toyota leaders from Japan had become frustrated by these very diverse cultural tendencies and gave up on many aspects of the Toyota Way. They could have simply let the highly individualistic Americans compete for pay and promotion as individuals and reward outstanding individual performers or let Americans do their own individual jobs and give up on cross-training. Why not give up on standardized work and let individuals do the job their own way?

But the early Japanese leaders refused to compromise. The spirit of challenge is also a value of the Toyota Way and the early leaders established the goal that they must transfer the essence of the Toyota Way to America regardless of the culture. Of course the first question was: what is the essence? Even that was not obvious as the Toyota Way was simply the way they did things. Through discussion, debate, and experimentation, and with the help of the Americans, they began to figure what of the culture needed to be transferred. There were modifications, such as small individual rewards, but no wholesale change in the fundamental values.

The approach taken was to begin by selecting Americans, particularly leaders, who best fit the Toyota Way culture. Leaders are intensively interviewed for their "character," and extensive evaluations identify team-oriented employees. Who is this person deep down in their moral fabric? Once people are brought into the cultural values of the Toyota Way, it is drilled into them every day, much like a boot camp experience. The result is that the individuals become Toyota team members and then transfer this culture to the next generation of employees and so on. When the first American plants were founded, the Japanese remained in

the background reinforcing the values as “coordinators” or “trainers,” though in decreasing numbers year by year.

## THE CHALLENGES OF CHANGING CULTURE AT OTHER COMPANIES: A WARNING

Unfortunately, most companies throughout the world that are adopting lean practices are going about it the wrong way. They often describe what they are doing as “adding tools to the toolkit,” or they express a need to “lean out a plant” because costs are too high. Other companies are adopting lean six sigma and believe that combining both as two complementary tool sets yields something more powerful than either one individually. This approach reflects a number of tendencies of Western culture:<sup>18</sup>

- The very short-term orientation in the West that Hofstede quantified.
- A strong Western belief in controllability of the environment, compared to the Eastern view in the need to adapt to the environment which is seen as less predictable or controllable.
- A strong bias in the West toward the use of rules of formal logic to understand and predict the world, compared to the more holistic and intuitive approach in the East.

These tendencies lead Western companies to see Toyota’s accomplishments as the result of simple cause and effect relationships between a set of definable and transferable tools and specific performance outcomes like cost reduction or inventory reduction. Figure out the Toyota secret tools and you too can be successful like Toyota. There is nothing wrong with using process improvement tools to get specific results and in fact, this is at the core of kaizen at Toyota. The problem is when there is a failure to understand the broader cultural context that allows this to happen repeatedly and broadly throughout Toyota. The following two contrasting company stories illustrate how the culture at Toyota compared to a Western company has a very strong influence on the meaning of tools associated with lean manufacturing.

### **Case One: “I messed up” (On line at Tsutsumi, The Camry Plant in Toyota City, Japan)**

This first story is from Mike Hoseus,

*As a new group leader, I was sent to Tsutsumi to spend a month getting an appreciation of working on the line and mastering one process. The team*

<sup>18</sup> The second two Western tendencies in this list are based on Nisbett, Richard, *The Geography of Thought*, New York: Free Press, 2003.

*leaders told us no one would be able to complete the whole job by the end of the month, but I was determined to prove them wrong. I was installing liners underneath the wheel well when my air gun slipped, and the driver bit scratched the paint on the inner lip of the wheel well. I gasped and looked around—no one saw me do it—but they had told me to pull the andon (rope) cord if I made or caught any defect. It was my moment of truth. My first reaction was to let it go. No one would probably see the scratch anyway, and no one would know that I made it. But my conscience got the best of me, and I wanted to see if they really meant what they said about admitting mistakes. So I pulled the andon and the team leader came to fix the problem and showed me how to hold the bit with a free finger in order to stabilize it better. But he did not seem angry at me for making the scratch.*

*Then at break we gathered for our afternoon group meeting where the group leader gave out information on safety and quality issues and heard back concerns from the members.*

*They spoke Japanese so I could not understand what they were saying until I heard the words, "Mike-san." Well that got my attention so I listened carefully... more Japanese and then "scratchee scratchee" ... and then more Japanese. So here it was; finally I was going to get called out for messing up and they were going to do it in front of everyone. Then, all of a sudden, the whole group looked at me and clapped and smiled and patted my back and shook my hand as they headed back to the line. I couldn't believe it, after double checking with an interpreter just to make sure, they were applauding me because I made a mistake and I admitted it. I felt like a million bucks, and guess what I did the next time I made a mistake?*

### **Case Two: "This is Lean?"**

This was reported to one of the authors by an engineer of a company going through the lean transformation process:

*They had told us in training that solving problems was important in lean, and that we should all work together as a team in order to do it. A machine operator called me and told me he had an issue with a safety guard on a piece of equipment. They also told me that it was important that I "go and see." So I left my desk and went down to the work area to meet with the person and look at the equipment and consider the safety issue. I spent some time talking with the operator and understanding the issue when I was paged to see the plant manager. When I got to his windowed office, he and the HR manager were both there and wanted to know what I was doing down there. After explaining the situation, I was hoping for some recognition and support, but*

*instead I got reprimanded. I was told "you can't just talk with every operator about their safety issues. Once they tell you that makes us liable with OSHA, and we can get in a lot of trouble. Just do your job!" I left the room thinking "I thought lean was supposed to be different."*

Case Two is obviously a dramatic example, but unfortunately, from personal experience and reports of organizations going through lean transformation we have countless examples of the organization's culture making it difficult to learn some of the basic methods of the Toyota Production System. Consider the following examples in which coauthor Liker was personally involved:

- A large mining company wanted lean as part of a broader transformation process and claimed they wanted "Toyota's culture." It took about one year to do the planning and get the buy-in but now they were anxious to get going. We explained that culture change is only possible by doing actual projects at the gemba (where the work is done). We suggested that these projects would have to be started at first in a single mine designated as a model for learning and engage the people directly involved in the mine's operations. The primary purpose of the lean transformation project was to get the people and managers at the mine thinking and acting with a lean mindset. The business metrics would follow. This is the "inch wide and a mile deep" approach. Once this model mine had gained sufficient traction, the learning would be systematically spread throughout the rest of the organization. They were obviously not too happy with focus on one mine rather than blasting lean across the enterprise, but went along with our recommendation. After two months they wanted to know when the results would come in but we suggested it would take a little more time. In the meantime they had contracted another consultant and started to work on other mines as they did not want to wait for our experiment. After six months of work and some notable progress (highest tons delivered in its history, improved uptimes, etc.) the initiative started receiving heavy criticism from the corporate office.

The corporate office was continually asking for detailed PowerPoint presentations and digital photos that could be sent back to headquarters documenting the culture change, and they were not seeing enough reports from consultants. When the corporate managers were invited to the site for a "go and see" they spent less than a day reviewing the various projects while sitting in a conference room and no time at all at the gemba or with the leadership at the mine. The consultants were puzzled as to how you can

observe culture change from an air-conditioned conference room with almost no interaction with the site. Shortly thereafter, the consultants were fired and a new consulting group was brought in. This group was excellent at PowerPoint presentations and gave the corporate managers everything they wanted; namely the ability to monitor progress without ever leaving the comforts of their own offices hundreds of miles away. Instead of working with the leadership team on the importance of true problem solving and people development, the new approach focused on rolling out 5S in all areas, effectively transitioning to an “inch deep and a mile wide” approach. The pilot mine continued on its own and used its own money to sponsor Liker’s consultant for another six months and continued to grow its new culture and break performance records, but was largely ignored as a model for the rest of the company.

- A large shipbuilding company was acquired by a larger defense contractor that had an active lean six sigma program, and was asked by the new owner to develop a lean program as well. With the guidance of a consulting firm, they conducted value stream mapping and kaizen workshops over a three-year period in the shipyard and ultimately in engineering. Tremendous success stories along with dramatic improvements in cost, quality, and lead time arose from this effort; the program was presented to the parent company as a huge success. As it evolved, the company needed someone to take ownership over the program. In the meantime, a six-sigma master black belt had been hired to lead the quality office. Quietly watching the progress of the lean program, he periodically expressed displeasure that the individual projects were not being properly tracked via rigorous metrics and it was not clear if the projects that would have the largest impact were being selected. At some point the organization decided to move the management of its lean effort, which had been run by the operational groups, to the quality office. Shortly after making this move, the black belt informed the consultants that their contract would not be renewed. The lean projects then became lean six-sigma projects. Those who were most passionate about the lean transformation were moved back to their operational roles. The culture that began to emerge was stopped in its tracks and lean six sigma then became a program focused on picking projects with political import and looking for cost reductions.

It was obvious to us that each of these companies was missing a key aspect of the Toyota culture. They were implementing various tools to get specific results but not building a culture of continuous improvement at the gemba. In fact, they neither understood nor valued the real cultural changes that were

beginning to emerge within their own companies. We believe this is the reason so few companies have seriously learned from the Toyota Production System. The results-oriented culture that needs to be changed is the major barrier to culture change.

### **CAVEAT: TOYOTA IS MADE UP OF PEOPLE— AND PEOPLE ARE NOT PERFECT**

As you read this book you will learn about the elements of Toyota culture and will be presented with many examples of the things Toyota does to ensure that these positive culture elements become the reality of day-to-day activity. In our experience, Toyota is remarkably good at this. Their culture is strong and cohesive, and well aligned. There is a conscious effort by the senior leaders to develop the Toyota culture in accord with the principles of the Toyota Way. They work hard at it. They realize it takes decades and not months. But they are not perfect!

Any of the authors of this book who have been close to Toyota, or worked for years inside the company, can share their horror stories. They can tell you about the people who left because they felt mistreated and the grievances brought to the human resources department—and about specific trainers from Japan who were violating basic principles of the Toyota Way. In Chapter 13 we will tell the story about a sexual harassment case at TMMK that upon investigation led to the realization that HR was not trusted to support the workforce and communication had broken down. This led to a thorough investigation of the root causes of the problem and major overhaul of the management system. The good news is that the problem was seriously and thoughtfully addressed. The bad news is that the problem occurred in the first place. Unfortunately the world is not a neat and controlled environment. There is always variation, and people are generally more variable than machines.

The important thing in Toyota is how they deal with these deviations from the principles. Do senior leaders even recognize deviations or are they so far from the daily work that they only get good news and do not notice what is really going on? Do they stop and take action to address the problems and learn? Our experiences with Toyota have generally been very positive in this regard. Senior leaders in particular truly care. They often seem to want to know the bad news more than the good news, and seek to confront problems.

Toyota has worked hard to create a deliberate, intentional set of policies and leadership practices that have proven effective in creating a very positive culture. The human system is not perfect but, true to their nature, Toyota continually works on improving it. In fact the human system is imperfect and the resulting

culture never lives up to the lofty ideals of the true Toyota Way. Throughout this book, we will highlight positive features of Toyota more than their unfortunate slip-ups, although a few such examples and how Toyota addressed them will be included. We don't claim that 100 percent of these errors are addressed; however we strongly support the organization's principles and believe any company who wants to be high performing needs a similar set of tenets that bring together the tools and people in an integrated system.

### **SUMMARY: REASONS FOR HOPE?**

This book is about Toyota culture and focuses mostly on how a highly successful hybrid version of its culture has been created in the United States. In reality it has been very challenging for Toyota even though Toyota's top leadership is absolutely committed to the Toyota Way and is in it for the long term. On a positive note Toyota has been very successful even with all of the national cultural differences seemingly working against them.

Mostly in this book we are trying to provide a picture of what Toyota culture is and how it operates. The final chapter will address the question about how other companies can learn from Toyota culture.

### **KEY POINTS TO CONSIDER FOR YOUR COMPANY**

1. The Toyota Way is a unique combination of Japanese culture, the specific culture of the early farming communities of Aichi prefecture, the Toyoda family leadership, influences from American experts, and the specific evolution of the Toyota group.
2. Toyota has been very aggressive at globalizing but has done it organically, growing from within, and working to maintain Toyota culture in all of its operations globally.
3. Toyota has faced challenges in bringing their culture, which has many strong Japanese elements, to other countries with very different national cultures.
4. Western culture in particular poses challenges to the Toyota Way due to strong individualism in the West, short-term thinking, and a different way of thinking about cause and effect.
5. Toyota has learned over time the essential elements of the Toyota Way needed to maintain the strength of the company and refuses to compromise on transferring those elements to other countries.

6. Toyota continues to learn how to teach the Toyota Way in other countries through explicit training (e.g., *Toyota Way 2001*), on-the-job mentoring, and extremely consistent leadership.
7. Toyota's success in bringing the Toyota Way to its local operations throughout the world gives hope to other companies seeking to learn from Toyota that this is possible.
8. The Toyota Way continues to evolve as Toyota grows, faces new circumstances, and globalizes, and Toyota is far from perfect.