# Toyota Motor Corporation's Culture Strategy

**Marius PROFIROIU**[1]
**Hiroaki KANEKO**[2]
**Cristian VLAD**[3]
**Alexandra DUTESCU**[4]
**Hideki ISHIDA**[5]

***Abstract***

*This paper illustrates how Toyota Motor Corporation (TMC), focuses on culture and talent engineering to nurture business sustainability, innovation and growth. The authors of this paper worked directly with TMC directors, business leaders, executives, organizational architects and talent operators to determine the main components and characteristics of their talent strategy. The authors have also explored how key elements of traditional Japanese business practices were considered when developing the corporate strategy.*

**Keywords:** *innovation, organization, transformation, sustainability, talent, strategy, culture, Japan*

**JEL classification:** G32, M14, O14

**DOI:** 10.24818/RMCI.2020.4.458

## 1. Research Methodology

The authors engaged in a combination of participatory observation (Yin 2003) sessions, corporate meetings, talent assessment workshops and business transformation engagements as in-house consultants, evaluators and advisors. Two of the authors also worked as Corporate Value Creation (CVC) department employees with Toyota Motor Corporations in Japan observing, thus, first-hand the decision-making processes and managerial initiatives with the eyes of internal business partners. The authors engaged in executive discussions with decision makers on various platforms and opportunities. We conducted 1,336 surveys, 89 individual discussions and 13 focus group interview (FGI) sessions with leaders,

---

[1] Constantin Marius Profiroiu, The Bucharest University of Economic Studies, marius.profiroiu@man.ase.ro

[2] Hiroaki Kaneko, The Bucharest University of Economic Studies, Strategy Senior Director, Globis University

[3] Cristian Iulian Vlad, The Bucharest University of Economic Studies, Associate Partner, Talent & Engagement, Global Business Services, IBM Japan

[4] Alexandra Dutescu, The Bucharest University of Economic Studies, Talent Acquisition Director, AstraZeneca Japan

[5] Hideki Ishida, The Bucharest University of Economic Studies, Partner, Talent & Transformation, IBM Japan

product designers, talent managers, industry strategists, service project owners, chief engineers, volume planners, communicators, internal and external thought leaders, corporate executives and organizational architects.

## 2. Background

On announcing Toyota Motor Corporation's[6] financial results for the fiscal year ending March 2014, president Akio Toyoda described the company's operating profit of ¥2.3 trillion. "Whichever way we look at it, sustained growth year after year is like tree rings. Since our company was founding, Toyota has never grown through acquisitions. We have grown organically by selling one car after another. And now, we are about to reach a huge turning point as we reach annual global sales of 10 million cars. To keep growing in a world that no one has yet to ever experience, we need to keep growing as we have like the tree's rings at the same pace as our people grow. We need to remain aware of not expanding too quickly beyond our own skin."

Total production volume of the Toyota Group was 8.2 million units in 2005. Within two years, due to the construction of new factories in the Czech Republic, Poland, Russia, China, and the United States and to strengthened sales in several regions, production soared to 9.4 million units. But then the global financial crisis hit in 2008, followed by a massive recall of Toyota vehicles in 2009. Toyota's business performance took a nosedive as the stock price hit a low of ¥2,800. It was not until 2014 that it recovered, surpassing the ¥7,000 mark. It was not the first time for Toyota to experience such hard times. Since founder Kiichiro Toyoda and his team first introduced its cars to the Japanese domestic market, the company has had to grapple with postwar labor disputes and the oil crises starting in 1973. But each time, the company has bounced back. How did Toyota manage to achieve continuous growth since its foundation? How did Toyota manage to overcome adversity in changing times and a changing business environment still stay on top? Where does it get its power?

### *Automobile manufacturing*

A single car is made up of about 30,000 individual parts (Kaneko, 2019). How the vehicle ends up is determined by the characteristics of these components, but it is deeper than that. Complicated cause-and-effect relationships between the components determine the car's characteristics. For example, fuel efficiency is affected by factors such as engine performance, how efficiently the power transmission works, the aerodynamics of the body, or the car's weight. But the weight also influences the vehicle's structure, and the structure affects other characteristics such as ride comfort, steering, or crash safety. For this reason, automakers must satisfy contradictory demands to improve both fuel efficiency and crash safety.

---

[6] Hereafter, Toyota Motor Corporation will be referred to as Toyota, except in cases where more clarity is needed to distinguish other companies with similar names.

Society continues to demand high safety, high environmental performance and high comfort from the cars it uses. Ever since the Industrial Revolution, social problems such as traffic accidents and ecological issues have proven difficult to solve. Many automakers have tried to get ahead of their competitors in fixing these conflicting problems at a high level. The result has been a gradual performance improvement of automobiles over many years.

To achieve more lightweight vehicles, car designers have had to find light but durable material, and the production engineering department has had to find a way to work closely with materials manufacturers and exchange information carefully through trial-and-error, becoming involved with the manufacturing process (pressing and welding). Working on such closely-knit processes requires the necessary stakeholders to be located near each other, focusing together on the same task, sharing common assumptions and communicating promptly.

The automobile production process is made up of production lines that include about 300 steps for assembly. Lead time for the whole process is just a matter of weeks. And the fixed costs related to factory construction amount to an investment of tens of billions of yen, which inevitably means the company needs to achieve a particular scale. But set against this, the aim is to improve the rate that the line is moving and reduce fixed costs under the precondition of realizing the vehicle specifications according to where the customer will use the car, their age, and preferences. Specs include the color, the engine, headlamps, seats or whether to fit a satellite navigation system or deicer.

None of the automakers produces all 3,000 of the car’s components in-house. For example, in the 1990s, Toyota's in-house production ratio was 30 percent, with the remaining 70 percent of parts purchased from 229 subcontractors. Nissan also produced 30 percent of parts in-house and outsourced from 193 companies. European and American automakers tended to build more in-house. General Motors (GM) at 70 percent and Ford at 50 percent were exceptionally high. GM had 12,000 suppliers and Ford 2,300, 10 times higher than Japanese manufacturers. The relationship in Japan between automobile manufacturers and parts suppliers is different from the West. In Japan, there is a hierarchical pyramid relationship with the suppliers. Tier 2 suppliers send sub-modular components to the primary (Tier 1) suppliers, and then the Tier 1 suppliers assemble them as complete modules before delivery to the automaker. The U.S. automobile industry is not set up as a hierarchy, so automakers tend to have more Tier 1 suppliers.

## 3. Toyota Motor Corporation

### General Overview

Headquartered in Toyota city, central Japan, automaker Toyota produced 9.03 million cars, a company record, on a consolidated basis in fiscal 2014. Its 15 affiliated companies which mainly developed finished cars or manufactured auto parts included Toyota Industries, Toyota Boshoku, Denso, Aisin Seiki, and Aichi Steel (see Exhibit 1). Group sales for the same year were ¥25.7 trillion with an operating profit of ¥2.3 trillion. The company employed 338,000 people. It had 52 manufacturing facilities in 27 countries or regions in North and South America, Europe, Asia, and Africa. Group brands included Toyota; luxury line Lexus; truck-maker Hino; Daihatsu for mainly mini cars, and Scion in North America. Famous models included the Corolla, which sold 25 million units by 2012, and Hilux which sold 11 million. Focused on culture and value creation for all stakeholders, Toyota is regarded as one of the most representative businesses of modern Japan. Value creation has been considered a major objective for businesses not only in Japan, but in other countries as well. Social engineers claim that value must be created not only for shareholders but for all stakeholders (Haksever et al. 2004). Furthermore, researchers have also pointed to that superior customer value leads to competitive advantage Gummerus (2013). Authors also agree that the value creation process is dependent and in close connection with intangible assets (Kaplan, 2004).

Toyota Central R&D Labs and Toyota's Higashi-Fuji Technical Center were responsible for the group's main research. Together they employed more than 1,000 people. As part of its collaboration with external research institutions, the company provided research funds through grant programs and public invitations for collaborative research in advanced technology. It also collaborated with the RIKEN Brain Research Institute to research the fusion of brain science and engineering. The product planning division based at headquarters was responsible for coming up with plans for cars. The division appointed a chief engineer to head up each type of vehicle. It was their responsibility to coordinate at every stage from planning to production. The design development division was responsible for each department that oversaw the car's parts and functions, while the production planning group managed the departments that oversaw "production technology," i.e., each step in the production process. Toyota or its affiliates carried out vehicle production at their factories, using vehicle parts supplied from within the Toyota Group or parts suppliers. Vehicle sales were carried out by companies separate from Toyota Motor Corporation. In Japan, there were five privately managed dealerships (Toyota, Toyopet, Netz, Corolla, and Lexus) in more than 280 places.

Vehicle parts suppliers and production equipment makers formed industry groups. Kyohokai[7], formed in 1943, is a parts suppliers group. The group split into three separate regional groups but reunited in 1999. In 2014, there were 224 member companies, which collaborated by sharing various case studies of the technical challenges they each faced. Different member companies take turns to run the organization. In the past, companies such as Asahi Glass, Ibiden and Nippon Steel & Sumitomo Metal led it. Eihokai is a group formed of manufacturers of production equipment, press molds, and machining jigs. The group formed in response to a harsh automobile industry climate in 1983 with the aim to build on the mutual strengths of each member company. Members of an earlier version of the Eihokai formed by production equipment manufacturers in 1962 established the core and invited mold and jig makers (which belonged to a group known as the Seihokai) to join. The new organization continued to collaborate with Toyota.

---

[7] Outline of KYOHOKAI, https://www.kyohokai.gr.jp/english/outline/

## 4. Management and Governance

Toyota and its affiliates had a cross-shareholding relationship. Toyota Industries[8] holds 17 percent of the total shares in Toyota, the other group companies each own a smaller stake. Financial institutions that hold shares included Japan Trustee Services Bank at 25 percent and The Master Trust Bank of Japan at 14 percent. The founding family's stake was very low, less than one percent (see Exhibit 2). However, this did not mean that the founders' influence on Toyota management was small. Of the 11 presidents of Toyota Motor or its forerunner, six have been from the Toyoda family (see Exhibit 3). Presidents who were not from the founding family were Taizo Ishida, Fukio Nakagawa, Hiroshi Okuda, Fujio Cho, and Katsuaki Watanabe. Intervention by the founder over the long term is often known to cause confusion, but former president, Hiroshi Okuda once described the Toyoda family as a binding force and flagbearer for the group. In the case of Toyota, the founding family has played a leading role in gathering a vast, stable group and obtaining the trust of its stakeholders.

## 5. Toyota's Philosophy and Code of Conduct

### *The Five Main Principles of Toyoda*

Toyoda's five principles, which form Toyota's basic philosophy (see Exhibit 4), codified the thinking of Sakichi Toyoda, the founder of the Toyota Group, and were introduced by his sons, Rizaburo and Kiichiro. The company announced the principles on October 30, 1935, the fifth anniversary of Sakichi's death. They were passed down to each group company and play the role of a code of conduct for all employees.

One of the phrases included in the principles is "remember to be grateful at all times." One Toyota employee said that he paid close attention when transplanting a cherry tree in the company grounds when they were reconstructing a large building. The tree had been planted when Toyota was on the verge of bankruptcy after the war. The founder and his employees planted the tree as a symbol of revitalizing the company. All the employees pinned their hopes on the tree. Left as a reminder to the hard times the company had weathered, the tree had become sacred to the company, not to be cut down.

---

[8] Toyota Industries Corporation (TICO) https://www.toyota-industries.com/

Another phrase used in the principles is “respect for spiritual matters.” Even today, Toyota has a kamidana, a miniature altar in many of its plant offices. On the first working day of the new year, Toyota’s management, including the board and factory management visit Koromo Shrine in Toyota city to pay for good business results. Workers offer similar prayers in front of the kamidana in their workplace. The company also holds a summer meeting in the Nagano prefecture devoted to praying for road safety. The event takes place on the grounds of the Seiko-ji temple, established by the Toyota and affiliates in 1970. The company sends its whole management team including the president and chairman. It also invites its sales dealerships.

Other phrases include “avoid frivolousness” and “be practical.” Ostentation is one of the things most disliked at Toyota. For example, Toyota's head office in Toyota city is 15 stories (71 meters) high, which is very low compared to Nissan's head office in Yokohama (22 stories, 99 meters). According to the company’s 2012 annual report, it had adopted practicality: “simple and slim” in its production facility development. The thinking behind simple and slim was to create facilities that were less prone to breaking and structuring them as simply as possible in case they did break. The aim was to reduce capital investment and depreciation expenses. One concrete example was how the company simplified its molds for pressing, casting and forging into a space one-tenth the size of before. This saving of space was not just about reducing equipment space but also the size of the factory building themselves.

## 6. The Toyota Way

The five principles were a vital philosophy in showing Toyota employees how to act. However, when the company became more global in the 1990s, it became tough to share the original philosophy across all employees. So, the company created the Toyota Way so that it could share its values and methods more broadly with all employees around the world. Five elements represented the Toyota Way 2001: Challenge, Kaizen, Genchi Genbutsu, Respect and Teamwork, supported by two main pillars: Continuous Improvement and Respect for People (see Exhibit 5).

"Challenge" means to keep a vision to realize dreams and strive with courage and imagination. This spirit was born from the philosophies held by Sakichi Toyoda, founder of Toyota Industries and Kiichiro Toyoda, founder of Toyota Motor. Although Sakichi was a carpenter's son, to escape poverty, he continually strove to be the first to invent an automatic loom. Despite being told it was not possible, Kiichiro strove to create cars in Japan for the domestic market. He started by trying, again and again, to create a single engine before he went on to bring cars to the world. The spirit of challenge toward manufacturing was passed down from the time of the company foundation to the present day. When Shoichiro Toyoda was president (1982-1992), he brought in the 3Cs: Challenge, Courage, Creation, with “challenge” listed first. The company also embraced the spirit of challenge when it did what it needed to satisfy the Muskie Act[9] and when it launched hybrid vehicles. A precondition for this challenge spirit was the company’s focus on its customers. It did everything it could to solve any technical challenges so that it can provide what customers want. This positive stance was evident in the broad range of colors it offers for the Vitz (17 as of 2015).

Kaizen is about never being satisfied with the status quo, always pursuing higher added value and squeezing out the last drop of wisdom. The important thing with kaizen is having an ideal situation, in other words an objective to aim for. If there is a challenging objective, even if there are small improvements, by never being satisfied with the current situation, it is possible to make continuous progress. To bridge the gap between the objective and the current situation, the worker closely observes the current situation, and squeezes out every drop of wisdom narrows in search of muda (waste). At Toyota, muda is hidden and the thinking is that if there are little bits of muda everywhere, it puts pressure on management resources. For that reason, even a proposal to reduce a process step at the production site by just 0.5 seconds is encouraged, and efforts to save even ¥1 in design are not missed. Improved work procedures and drawings are standardized in the form of work instructions or requirement forms. And these standardized items become the starting point for the next improvement. The essence of kaizen is captured in the banner displayed on the Toyota factory floor: Good products, good thoughts (see Exhibit 6). Former president Taizo Ishida explained the slogan:

“It means that good products come from good thinking, and that good thinking comes from good products. We must always pursue good products through good thinking.” Kaizen is acknowledged around the world as a concept original to Toyota. Another president, Fujio Cho said that when the company was opening factories overseas, it looked for a word with the same meaning, but could not find one, so it coined the term “kaizen” in English. To achieve steady kaizen requires a certain kind of person. Former president Katsuaki Watanabe enacted the theme of Jimichi ni, guchoku ni, tetteiteki ni (firmly, frankly, thoroughly) in the company. Frankly is often taken to mean being honest to the point of causing offence, but at Toyota it is used as the ideal way for its employees to be. Toyota is committed sometimes even to the point of frustration to sticking to this attitude toward frankness so that it can continuously improve.

In Toyota, employees are expected to go to the scene to identify precisely what is happening, then quickly agree, decide and act. This concept, known as genchi genbutsu (literally physical place, physical objects), is about more than going to the work site (known as genba at Toyota) to see and hear what is happening, it also requires analyzing what is seen and heard and applying wisdom. At Toyota, data and numbers are used everywhere in the production site, not only in technical development. Workers are required to repeatedly ask "Why?" five times to create a structure of the events before their eyes, the problems and their causes. Toyota does this because the root cause is hidden other causes. The root cause is different to these other causes in that the problem will not be solved before fixing the root cause. According to Cho, the common 5W1H framework of questions has a twist at Toyota as it is five whys and one how. Former vice president Taiichi Ohno made this distinction between the Japanese words shūzen and shūri, both meaning repair. Shūzen is a cosmetic ad-hoc repair with a nuance closer to the English word “mend,” while shūri seeks to get to the heart of the problem. To truly repair something (shūri), it is necessary to get to the bottom of the root cause.

---

[9] A landmark clean air acts in the United States that set strict limits on air pollution.

Teamwork is about nurturing talented people, bringing together individual strengths and demonstrating collective power. For example, since an automobile assembly factory is essentially a series of work ideas flowing on conveyor belts, in general, if a single worker falls behind, it inevitably leads to stoppages on the line. However, at Toyota, team leaders who are familiar with several steps of the work are placed away from the line, so that if one person’s work is delayed, the line does not immediately stop. And if there is a quality problem or there is an abnormality in the process, any worker can pull the andon cord to stop the line and learn how to solve the problem. In this way, Toyota encourages one person to work for all and everyone to work toward the same goal. There is a set way in how the production department works to solve problems while cooperating with the design department and sales department. One executive described it as friendly fighting. Many employees believe that better cars can be created by arguing over each other's beliefs while still understanding the difference in each other’s position. Toyota also fosters teamwork through external activities. The company held an in-house relay race every year. 2014 was the 68th year. The event is a huge one with 30,000 participants, involving even teams from overseas. The pride of each division is at stake. The passing of the baton represents the assembly work process and the concept of passing work from one person to the next. It also represents the design department sharing its plans as scheduled so that a new car project is not delayed.

Respect for people means valuing others’ personality and opinions and prioritizing people’s safety. But it is more than that. It is also about providing the added value that only humans can provide. For example, if a certain step in assembly work takes 60 seconds, it might be broken down into 30 seconds that add value and 30 seconds of “movement” or muda that do not generate value. By bringing muda closer to zero seconds, we can bring the net work rate closer to 100 percent and still produce human output. This concept supports Toyota's efforts to eliminate waste thoroughly. The philosophy of respect for people is not limited to the production sites. When a boss at Toyota lets his or her subordinates handle work that is bigger than their capabilities, it is seen as a way to enable the subordinate to maximize their capabilities. Employees are expected not to “go to work,” as much as they are expected to “impart their wisdom.”

## 7. Toyota Production, Quality, and Education

### *The Toyota Production System*

Kiichiro Toyoda devised the Toyota Production System (TPS) and Taiichi Ohno reconstructed it. When James P. Womack of MIT studied the system, he gave it the name lean manufacturing. In the study, Womack compared the General Motors Fremont plant to Toyota's Takaoka plant. He contrasted how GM strove for mass production while Toyota produced the right amount of various kinds of vehicle. After Womack's study, many famous scholars and institutes researched the actual conditions of TPS, and countless books and papers followed.

The objective of TPS is to continually and steadily provide customers with good quality, inexpensive products while staying in tune with fluctuating demand and a wide variety of customer needs. In manufacturing, this type of small-lot production is known as heijunka (production leveling). It means that the production line does not produce a single lot of the same car but has a mixture of car types in the flow. The two pillars needed to realize this objective are automation and just in time (JIT). Automated means not passing inferior goods through the production process into post-production, while JIT is to make what is needed, in the amount that is needed, when it is needed. Automation is realized through visible devices such as the andon cord or poka-yoke (inadvertent error prevention) and JIT through kanban (cards which track production within the factory) both of which are manifestations of standardized work, 4S[10], multiskilling or labor saving. Each worker's capabilities and awareness of their objective are also prerequisites.

TPS strongly urges a shorter lead time from that objective. The reason is that longer lead times create a need for longer demand forecast horizons, which result in a deviation between actual production and market needs. Sufficient inventory at each step in the production process can be considered one of the easiest ways to permanently shorten lead time regardless of demand fluctuation. However, in automobile manufacturing, which has a long production process, an increase in inventory means an increase in working capital and reduced capability to respond flexibly to the market. It is why Toyota continually pursues thorough elimination of muda and shorter lead time as typified by its inventory.

From a different angle, TPS is also a tool to visualize problems in the production process. The andon cord or the kanban system reveal problems such as defective goods and inventory. But such problems, which halt a long production line must be solved immediately. So, team leaders placed outside the line and other maintenance workers make efforts to analyze the current situation and investigate the causes immediately. If it becomes apparent that the problem is due to the design, the designer and developers become responsible for solving it. TPS therefore inevitably demands that every worker improves his or her problem-solving skills and communicative ability. As a result, management spares no effort in putting its resources into educational activities for all employees to develop these abilities.

---

[10] 4S is a workplace organization method that uses a list of four Japanese words: seiri (整理), seiton (整頓), seisō (清掃),and seiketsu (清潔). These have been translated as "Sort", "Set In order",and "Shine".

TPS only functions when the mechanism and the people work organically. An on-site manager sets up an andon (electronic visual display) so that he can see production goals, results and any abnormalities in the process at a glance. An andon cord (essentially a rope switch) is installed at each step of the production line, and when the operator pulls the cord, a lamp lights up. As soon as the line manager notices the light, he rushes to the worker to find out the problem. Once it is solved, he pulls the release cord to turn off the lamp. The important thing is that if as the conveyor belt is several hundred meters long and there is no space between each car if one process stops, the whole production line will stop. In this sense, pulling the andon code could be construed as annoying for the other workers on the line. But their internal training teaches them that this is not the case. If nobody pulls the andon cord when they should, it will result in a pile of defective products ready for inspection at the end of the line, or if those products made it outside, it would result in the company's brand image suffering. All steps in the process have a fixed endpoint on the conveyor belt. There is a built-in mechanism that only allows the conveyor belt to stop when it reaches that fixed point. Since the line does not stop immediately when the cord is pulled, it ensures the safety of any workers on the line, it also gives time to managers who are called help solve problems, and it also eases the guilt the worker who pulled the cord may feel.

When the economy was in high growth, it was common for workers in many Japanese companies who were not doing their work or did not do overtime to feel stress or alienation from the group to which they belonged. In extreme cases, even when two people achieved the same results, if one went home on time but other did overtime, it was more likely that the person working overtime would be promoted. This can have the effect of reducing productivity. But Toyota has for many years had a system that does not allow for people who pretend to be busy. It does this by identifying work that is muda and work that creates added value. Like with the repair example, Ohno made a distinction between the Japanese words hataraku (work) and ugoku (move). Time spent working creates profit, while time spent moving eats profit. Ohno went further, describing people who work and people who move. When observing workers, he found that rarely anyone spends their whole time moving. Most people spend some time working and some moving, so "people who just move" do not exist. But if we take a line with 100 people on it and add together the total time spent on moving, we will find the equivalent of several people who just move. By saying this, Ohno was saying that every line has surplus people. Ohno told workers whose hands were free to stand in front of the wall. But by doing this, the workers did not easily recognize the distinction between moving and working, and they could not stand the sense of alienation from their co-workers. So, the result was that they did not do as Ohno told them to do. So Ohno changed his instruction and told the workers to put any parts they had finished assembling beside themselves rather than taking them outside the factory.

The result was their “movement” was replaced by a pile of parts. This helped them understand the muda they generated. Through this, Ohno changed the workers’ perception to physical objects (genbutsu), allowing him to optimize personnel allocation and improve productivity.

### *Quality*

Automation had come to represent Toyota Motor even from the days when it was still part of Toyota Industries. The company’s sense of quality is rooted in automation. There have been times when customers questioned Toyota quality, such as the large-scale recalls in the early 2000s or the quality problems in the U.S. Between 2009 and 2010. But its score of 76 points on J.D. Power’s quality survey of problems per 100 vehicles demonstrated its high quality. Toyota's industry-leading score was significantly lower than the average of 84 points. Mercedes Benz score 126 points and Volkswagen 128. For Toyota, providing high-quality products means good quality, low price: selling good cars cheaply. Quality is not limited to the product; it also refers to the design, manufacturing and service. All workers are responsible for quality assurance, and they are expected to seek improvements in each of the quality criteria in all their activities.

The first action of an organizational approach to quality was at the company’s foundation in 1937. From the outset, an audit improvement department was created directly under the president. The department served as the gatekeeper in auditing product quality and business operations, and through this, it clarified responsibility for quality assurance throughout the entire value chain. In 1949, SQC (statistical quality control) was introduced under the slogan of customers first, and trial operation began at the headquarters machinery factory in 1950. In 1951, a suggestion system was implemented to encourage proposals for creative ideas from the production sites. Those involved in the inspection process were taught about quality control. These initiatives were spread to the site managers in 1953 together with the good products, good thoughts slogan.

After the Second World War, Toyota was in a poor financial position and could not handle the whole process from design to production for many parts. Therefore, it sought a collaborative system with external suppliers. As a result, it implemented a method for approving plans. Under this method, suppliers make parts drawings or create inspection plans based on specifications set by the automaker. After the automaker has approved the plan, parts production can begin. The supplier bears full responsibility if it does not deliver according to the approved specifications or plan.

Moreover, Toyota’s parts supply was not only about entrusting suppliers to carry out the work from design to production based on approved drawings, but also getting involved and working together. Toyota designers also often carefully check final quality. And by creating an in-house production department with technological capabilities and continually grasping the cost structure of its products, and then allowing in-house manufacturing to compete with the suppliers, parts quality and performance is sometimes improved. Long-term trust and a cooperative relationship are prerequisites for systems such as development and quality assurance linked to these suppliers.

However, Toyota's progress in quality improvement was never smooth. In 1961, Eiji Toyoda, then president, introduced TQC (total quality control) in response widespread quality problems due to an increase in new workers and insufficient training of them, and the inability and unpreparedness of site managers during the roll-out of the second-generation Corolla the year before. Eiji introduced the guideline that the ideal inspection was the one that did not need to be carried out. He developed quality control education throughout the company and introduced a drive to halve the number of defects. He also established quality control teams, known as QC circles, for all employees that would meet to discuss quality issues. As a result, awareness that quality was created in the process itself spread throughout the work sites. Two years after the introduction of the QC circles, Toyota received the Deming Prize[11] when it achieved a 50-percent reduction in material process defect per vehicle. As a result, it was able to reach the level of quality according to international standards of offering those purchasing a new car two-year or 50,0000-kilometer warranty. The management team also continued to offer periodic training so that in addition to quality awareness, the company could develop people fit for manufacturing products. But in the 1970s, when some of those who had experienced the past quality problems began to retire, others began again to criticize the capabilities of the site managers. The executive team thoroughly reviewed the situation and overhauled the company’s policy management, introducing a management training program. They kept a close eye and provided guidance until the new methods were fully integrated into the work site culture. In the 1980s, there were several sarcastic proposals submitted to the suggestion system and QC circles. The cause was the engineers’ apparent lack of analytical capability in the new shift to electronics in cars. So, in 1988, the company re-examined its training and launched SQC Renaissance. As global production increased in the 1990s, the company faced challenges in implementing TQC overseas. In 1995, the company introduced TQM (total quality management) and in the 2000s, it implemented quality control teams globally.

Thus, the history of Toyota quality was an arduous journey. And then in 2009, when a floor mat got caught on the gas pedal in a Toyota car causing brake failure. It led to a mass recall and the company decided to change the shape of the pedals and the floor surface in some models. There was also a recall of the new Prius in 2010 to repair software when the feel of the brakes was different from drivers’ expectations. President Akio Toyoda said, "The recalls are affecting several models in several regions and have caused anxiety among customers who are wondering if their cars are OK. For that, we are very sorry.” What Toyota fears is that as time goes by, the number of workers who confronted quality problems themselves will decrease, and the new generation of employees will forget how quality problems look. To that end, Akio Toyoda set up the Special Committee for Global Quality to ascertain what was happening in the market and to work toward preventing such issues from recurring. He also created “Our Attitude” (see Exhibit 12), a list of the virtues and expected behaviors of Toyota employees in their work. And when he had to go to the U.S. on February 24, 2010, to attend a public hearing on the recalls, he also made time for the employees to look back on their work, fostering their awareness of quality problems.

---

[11] The Deming Prize was established by the Japanese Union of Scientists and Engineers in 1951 and is awarded to organizations and individuals who substantially enhance business performance through the effective application of Total Quality Management (TQM).

## 8. Employee Education

There is a variety of training at Toyota. It includes induction training, periodic training depending on employees' level within the company, various kinds of specialized training, and education for managers. But among these, practical problem-solving training is one of the most important. All employees thoroughly learn the flow of problem solving over several years starting from their first year in the company. The method consists of eight steps, which are summarized in a format called A3 - which is the size of the paper it is written on (see Exhibit 7). Employees take several opportunities such as their induction training, pre-promotion training and QC circles to consolidate the practical contents on their A3. Through this process, employees revise and develop their A3, have it checked by their supervisor, and learn logical thinking and effective ways to express themselves. At the end of their training, the employees are given an opportunity to present their A3s. Not only is the employee evaluated for his or her performance, but their supervisor is also evaluated on how well they provided guidance. Rather than the result of the work itself, the evaluation focuses on the process of how they carried out their work while understanding the flow for problem solving. As the steps for solving problems are the same regardless of the size of the problem, employees who have undergone the training are able to use the A3 framework to carry out any kind of businesses. Since conversations between employees are influenced by a shared understanding of the framework, they can communicate quickly and efficiently, without muda. According to Tetsuya Kaida who worked in Toyota's product planning division, the A3 has existed since the current management team joined the company, and the methods for teaching it have been continually passed down over several years. The main approach used for problem solving is on-the-job training. When Kaida first joined the company, he wrote about 40 A3s per day about various new projects and his supervisor checked all of them.

Education at Toyota is carried out in daily work. For example, in the event of a work accident at Toyota or one of its affiliates, the situation and cause of the problem are shared across the entire company the same or next day. At the same time, groups at each workplace takes time out to discuss what they should do if it were them and what they should do to prevent such an accident at their own workplace. Regular weekly meetings regarding road safety are also held at many workplaces. Employees learn about past accidents or share their own experiences and get to the bottom of the cause and discuss how to avoid the same accident happening again. Generally, as personal experiences are likely to be a trivial problem, it is not easy to devote time and resources to long meetings discussing them. But Toyota works thoroughly on seemingly trivial things. And focusing on trivial things also leads to quality control in the manufacturing industry. The idea of trend management is one method of quality control. Trend management monitors and captures changes in control values of a given product to detect abnormalities in the manufacturing process. It then takes early countermeasures before the control value exceeds the standard value and becomes a quality defect. What is needed to capture these changes are the eyes of those who do not miss trivial changes. Meetings about road safety or disasters are designed to hone employees’ sensitivity to small events of daily life. Employees are expected to think laterally about these cases and put themselves into the situation to build awareness of how they would prevent a similar accident. Each case is also evaluated according to certain criteria on whether it could be applied widely and developed for versatile learning. Many companies talk about the sense of ownership, but at Toyota, lacking ownership is the same as being unable to apply specific learning widely. Even for employees who can apply their thinking or learning laterally, they are encouraged in meetings to speak as if it were they at the scene of an accident, and reflect any information and knowledge gained in the meeting in their subsequent actions. Employees who cannot act in this way are also considered to have a shallow sense of ownership. As stated above, applying learning laterally is closely linked to building a sense of ownership.

Toyota's internal training emphasizes the repetition of the same things. Through repetition, employees who have been in the organization for a certain number of years will be able to instruct newer employees, and even after they leave, workplace learning will continue. Moreover, not only can the company maintain the structure of learning, but it can also continually examine its contents. Many Japanese companies adopt systems such as apprenticeships where older, more experienced workers teach younger, new employees. But at Toyota, all recruits must teach, for their first three years in the company, people less experienced in their field. Former president Cho pointed out that the Japanese apprenticeship system has both strengths and weaknesses when compared with training in foreign companies. Cho said that in the United States, employees decide their own career plan and do not expect training from the company, but in Japan, companies set up a mechanism to train people after joining. At Toyota, even employees assigned to the human resources or accounting departments must go through practical factory training and engine disassembly. Cho said that although it required considerable money and time, employees genuinely feel a connection with the business and the products and services that the company sells. He said that eight in 10 foreign employees at Japanese companies are also very grateful for the training.

## 9. Elite Genba Training

To maintain and manage its strength, the structure of TPS, Toyota takes the education of its production site workers very seriously. Toyota Technical Skills Academy is an educational institution that fosters managers who oversee production sites. Its precursor was founded in 1938. The academy consists of two departments - high school education and vocational education. Students gain not only expert knowledge and skills, but also undergo rigorous discipline training drills. They are trained to speak out loudly and clearly and to march. Graduates are often assigned to the production engineering or facilities maintenance departments at Toyota or its group companies and earmarked as future managers.

Toyota also has vocational schools overseas. Indian subsidiary, Toyota Kirloskar Motor (TKM) owns the Toyota Industrial Technology Institute, a senior high school established with the aim of contributing to the development of the Indian automobile industry. It adds to the Indian economy through job creation in local production and training of skilled technicians. It targets junior high students, who are academically capable but for economic reasons cannot move on to senior high school. The students spend three years learning with full board. The school offers specialized courses such as painting and welding, and the students receive assembly line practice at TKM. Toyota expects the school to nurture promising students and its graduates to become active as core TKM personnel.

Toyota's technical and production employees are mostly engineers (university graduates) and skilled workers (regular and industrial senior-high-school graduates). There are often situations where the opinions of the skilled workers are respected rather than being considered as equal. The most important things in the manufacturing industry are the safety of the production site and the quality of the product. So, the respect comes fromthe idea that people who deeply understand this importance are those who work at the production site. The foreman, as the leader of the skilled workers, is recognized as the god of the genba. The foreman's opinion represents the opinion of the production site, and the foreman often does a very good job of managing the genba. As the workers listen to the foreman and respect his opinion, this leads to smooth operation and results. They work with the foreman to prepare for production and reduce defects. Through these relationships, the production site and product quality continuously improve.

## 10. Technological Innovation Against the Competition

### *Nissan Motor*

Nissan traces its roots from the late 1920s when Yoshisuke Ayukawa, merged three of his companies under a holding company called Nippon Sangyo[12].

---

[12] Nippon Sangyo - literally meaning Japan Industry. Nissan takes its name from the abbreviation for Nippon Sangyo.

The company became in the early 1930s a zaibatsu, a huge conglomerate rivalling the great Mitsubishi of the time. The zaibatsu included companies famous today such as Hitachi and NEC. Nissan began producing cars in 1933. The Nissan Group was formed when the zaibatsu were dismantled after the Second World War. Nissan introduced technologies from the U.S. and the U.K. from its beginnings, and the word Nissan became synonymous with technology. In the years after the war, Nissan was the leading automaker in terms of technological capabilities, followed by Isuzu. In 1966, Nissan merged with Prince Motors acquiring its attractive sports cars such as Skyline. Nissan also acquired Prince's highly skilled technicians, many of whom had come from the aviation industry. However, in the 1970s, Nissan suffered delays in building its dealership network and fell behind Toyota. Although its luxury cars, Cima and Cedric were highly profitable, by 1999, poor sales during a recession put Nissan on the verge of bankruptcy with interest-bearing debt over ¥2 trillion. Nissan agreed a cross-sharing alliance with Renault, and the French company first sent Carlos Ghosn to restructure its management and turn around its finances, and then to take over as CEO. Ghosn revived Skyline, Fairlady Z and GT-R, which were regarded as vanguard of Nissan's reputation for technology. Then, in 2013 he introduced electric vehicles for individual consumers.

### *Honda Motor*

Honda, a maker of motorcycles and cars, was established in 1948 by Soichiro Honda. Soichiro Honda established the company Tokai Seiki as well as the Honda Technical Research Institute before creating the eponymous company. As an engineer and as a manager, he contributed greatly to the development of the automobile industry. In 1989, he became the first Asian to be entered into the Automotive Hall of Fame. Takeo Fujisawa, who co-founded Honda said that the company president should be from the technical field. This is still the case for the company now. The company's current (seventh) president also comes from a technical background. Both Honda and Fujisawa abhorred the idea of keeping the company in the family, and they made a pact not to force their sons to join the company. Honda is built on a culture of *waigaya* (the concept of spontaneous conversation to solve problems). The company's creation of a joint executive office with the aim of revitalizing information exchange between executives embodies that culture. In 1971, Honda announced CVCC (compound vortex controlled combustion), a low-pollution technology. The technology was the first to satisfy the Muskie Act, enacted in the U.S. In 1970 and said at the time to be the toughest clean air legislation in the world. This technology made Honda a household name around the world. Honda offered this technology to competitors such as Toyota and Ford. The company also fed back the knowledge it gained through Formula 1 and other motorsports into its commercial cars. Many of its sports cars, such as *Supercar NSX* were commercialized. In recent years, the company has contributed to lowering CO2 emissions by launching *Insight*, a hybrid electric vehicle. It also launched a hybrid version of its popular *Civic*. The company is also developing next-generation environmental technology in the shape of lease sales of hydrogen fuel cell vehicles. It is expected that the development of a hydrogen fuel production supply infrastructure will put less burden on the environment. In 2014, Honda was the number three player in the domestic passenger car market (excluding minicars), behind Toyota and Nissan.

### *German Automakers and Parts Manufacturers*

Germany is a country known for its prowess in scientific and industrial technology. It has a similar industrial structure to Japan. The stereotypical German is punctual. He keeps his promises and respect the rules. He has a strong sense of responsibility, is rational, skeptical, critical, diligent, serious, and he likes cleanliness. In many ways, Germans are like the Japanese. Of the 350,000 German companies that export, 98 percent are small and medium-sized and most of them are in manufacturing. About 45 percent of Germans high school students go on to study at university. Of those who do not, many undergo vocational training. Many of those educated to secondary level work for companies while they learn skills at vocational school. This is known as a dual education system. In many cases, these students are offered a job at the end of their studies. Many of these jobs are in mid-sized companies. These companies are often family-owned and have a long history. They often place emphasis on keeping jobs in private, local community-based companies. The companies are small-scale, but they have strong technical capabilities. Therefore, it is common for excellent science and engineering students to go and work for these companies rather than large ones. When several Eastern-Bloc countries were admitted to the expanding EU, there was a huge influx of labor and an increase in competition for subcontracted work, these companies doubled down on their core specialized technologies to maintain their competitiveness. As the companies are family-run, they can focus on the long-term management of the company without worrying about the stock price.

Bosch, the largest private unlisted company in Germany, is a collection of these mid-sized companies. Bosch was founded in 1886 by Robert Bosch. An electrical engineer by trade, Robert Bosch worked at several companies before he opened his “workplace for precision machinery and electric technology.” The company found its first major success when it made improvements to a magnetic ignition device used in internal combustion engines. Since then, in addition to expanding its businesses overseas, the company has continually striven for technological innovation and to bring world-first technology to the masses. In 1997, Bosch was able to commercialize the common rail, a high-pressure fuel injection device used in diesel vehicles. Several automakers adopted the technology. Bosch is the market leader in each of its main businesses (mobility solutions, industrial technology, and energy and building technology), where it competes with Toyota's major group companies Denso and Aisin Seiki. Denso is second globally to Bosch in automobile parts. Denso split off from Toyota first as Nihon Denso (literally Japan Electric) in 1949. But performance suffered in the early days due to product quality issues, so Bosch stepped in to support Denso financially. Bosch implemented technical guidance and a production management techniques. The companies later agreed to a cross-sharing relationship, which has lasted more than 50 years. But the two companies have competed directly since the 1970s. The competition has been good for the growth of both companies. Sales in 2014 were ¥6.9 trillion for Bosch and ¥4.1 trillion for Denso. This was higher than most mid-sized automakers.

Helped by the low value of the euro, Volkswagen (VW) has made full use of the burgeoning Chinese market. Like Toyota, despite having to navigate tough times, VW refuses to cut staff. The company has used initiatives such as job sharing to ensure its policy of maintaining a deep and trusting relationship with the labor unions. It has also continued its efforts through AUTO5000 to provide education for the unemployed and boost employment. The strength of trade unions and the German social system played an essential part in VW’s ethos. And although VW had the towering presence of Ferdinand Piëch (grandson of Ferdinand Porsche) and his family dynasty, the company is governed very differently from Toyota. The rise of VW since the early 2000s is due primarily to Piëch's leadership. The Piëch family holds a controlling stake in the company. Unlike Toyota’s time-consuming and labor-intensive strategy of developing people to build manufacturing infrastructure, VW’s strategy under Piëch has been a three-pronged (M&A, multi-brand and platform) strategy. A combination of the Piëch family’s top-down style and an excellent management system have pulled together VW’s complex organization.

Piëch concluded because Germany’s characteristically high cost structure, low productivity, and strong labor unions, VW would never beat Toyota by imitating lean manufacturing. The company achieved low cost and quality by opening up and standardizing the production system, and by implementing standardization of the higher-level functions, modularization and the horizontal division of labor. Furthermore, VW overcame the dichotomy between standardization and differentiation by realizing its strategy through M&A of building a full-line brand from luxury cars to mass-market cars. VW acquired smaller, luxury automakers such as Lamborghini, Bugatti, and Bentley, turning the company into a large group managing multiple brands, and laying out a clear strategy to fight Toyota with “soft” aspects such as marketing, design and brand.

### *Korean Automakers*

Hyundai has rapidly expanded on the world stage since 2000. The company is Korea’s leading automaker and boasts Kia among its group companies. Sales by volume grew from two million units in 1999 to 7.8 million in 2014, making it the world’s fourth-largest automaker -- third when counting only passenger cars. The Hyundai Group grew its share not only in Korea but also in other developed countries such as the U.S. And Canada. According to Consumer Reports, many perceived the company's products in 2000 as low-priced but low quality. But since then, production quality has improved. Hyundai also increased sales by offering sales incentives and 10-year/100,000-mile warranties. The company emphasized advanced sculpted designs to improve its competitiveness. In recent years, the company has also introduced modularization to improve development design efficiency.

### *Innovation in the Automobile Industry*

In May 2014, U.S. Internet giant Google unveiled a prototype car capable of autonomous driving. The car challenged conventional wisdom in the industry. It had no steering wheel, accelerator or brake, just a start button. Autonomous driving relies on mounted cameras and radar to ascertain what is happening around the car, rendering driving by humans unnecessary. Google is testing the technology on the streets around its campus in Silicon Valley. Existing European and American automakers manufacturers, such as Audi and Mercedes-Benz also jumped on the autonomous driving bandwagon with an eye to launch cars equipped with the technology before 2020. Autonomous driving technology has the potential to uproot the existing business models nurtured by the automakers.

With depleting oil reserves, the industry has also pursued electric vehicle (EV) technology from around 2000. As EVs have no internal combustion engine, rather than fill up with gasoline, users must charge their car at home or at charging stations. The technology still faces many hurdles as it takes 30 minutes for a full charge, which only allows driving around 200 kilometers. But Tesla, a Silicon Valley start-up launched a sporty EV, Roadster in 2008. Despite a selling price over ¥10 million, it sold 100 units in just three weeks. Tesla added the Model S sedan in 2009, reinforcing its lineup. The company is profitable in California, which has strict standards surrounding exhaust emissions. Tesla has succeeded in satisfying the standards while automakers such as GM and Ford have not. Tesla plans to sell a mass-market model at a price point of ¥3 million by 2020. EVs are much simpler than traditional gasoline or diesel cars. Although they need a battery and engine, the configuration is different and the number of components much fewer. EVs will likely dramatically change the relationship between automakers and their suppliers.

Automobiles were initially industrial products that required collaboration between the players along the supply chain. A car is a combination of all the components that go into it. The characteristics of these components are what make the features of the vehicle: ride comfort, fuel economy, quietness, etc. More than how the parts work together, the companies themselves also collaborate on the process itself. It has had an impact on the difference in time between model changes for Japanese and Western manufacturers. Until the mid-2000s, Japanese makers made full model changes every four to five years, while Western ones took six to seven years. To catch up with their Japanese counterparts, Western makers had to introduce rules to create standard interfaces between components -- modularization. Toyota and Nissan have had standard platforms (the chassis or underbody of the car) for their small, medium and large cars since the 1990s. Companies such as VW or Hyundai modularized their platforms much more recently. The premise behind modularization is that the interface between each module is standardized. As a result, personnel in charge of each module can concentrate on their own development and reduce the time between shift changeovers. VW and Hyundai are promoting not only common parts between makes but also across different generations of the same model, reducing cost by improving development efficiency.

## 11. Toyota’s Approach to the Environment

After the Prius was introduced as a concept at the Tokyo Motor Show in December 1997, it took just two years to reach the market as the world's first mass-produced hybrid car. Environmental friendliness is one of the biggest issues facing the automobile industry. In response, the company introduced THS (Toyota Hybrid System) and achieved a then surprisingly fuel efficient 28.0 kilometers per liter. THS is a completely new powertrain (drive unit) system. It generates power by using a 1.5-liter gasoline engine and a synchronous permanent-magnet motor. This was groundbreaking for an industry that had long used reciprocating (or piston) engines. The Prius did not come cheap. Its sticker price was ¥2,150,000 at the time of launch, higher than the popular Corolla (¥1,527,000). However, observers believed that Toyota had squeezed its costs to be able to sell a car equipped with a new powertrain at a price within the reach of the general public. Building on these leading-edge initiatives, Toyota launched the second and then the third generation Prius. Sales reached a million units within 10 years, and fuel efficiency reached 35.5 kilometers per liter. More than 20 different models were equipped with THS by 2015. It was also fitted in trucks such as Dyna and Toyoace.

In December 2014, Toyota announced a new fuel-cell vehicle, Mirai. After more than 20 years in development, it was the moment when a new general-purpose powertrain went on sale. Fuel-cell systems do not use gasoline or other fossil fuels. It is a clean energy source that does not emit gases such as carbon dioxide or nitrogen oxides, which cause global warming. To enable the spread and the technology meant building infrastructure including hydrogen stations and their maintenance. To help the spread, Toyota announced it would offer up its 5,680 patents related to fuel-cell-vehicle technology until 2020. Among them, the company released indefinitely 70 patents related to hydrogen stations. Toyota is contributing to the spread of the hydrogen supply infrastructure at the same time as working on the establishment of de facto standards for the technology.

## 12. Toyota's Global Expansion

Toyota’s overseas car production factories have a “parent factory” that plays a supporting role. Once NUMMI, Toyota’s joint venture with GM, got underway in 1984, Toyota’s Takaoka plant, which produced the same class of Corolla, was designated as the parent factory supporting operation guidance and quality improvement. Since then, factories in Japan have often served as parent factories for the new overseas factory. But in recent years, there have been cases where an overseas factory that has been in operation longer performs the role, as happened in the case of Mississippi when the Kentucky factory was its parent. According to Takarada, the parent factory does not only temporarily provide information necessary for production, but it also sends a Japanese employee on secondment to support the local manager. The seconded employee sits at a desk beside the manager communicating one-on-one each day and providing work guidance as it arises. By doing this, the local people and organization aim to function autonomously based on Toyota's way of working and thinking.

### *Business Development in a Mature Market - North America*

Toyota's production in North America began in earnest in the 1980s (see Exhibit 8). One veteran employee who had experience of a North American operation said: “Talking to the local managers is quite fun. One manager couldn’t help laughing when he told the story of his wife’s question: “How come if you’re a manager you spend so much time at the production line? Should you be sitting at your desk doing managers’ work?” Another manager said: “Recently, young people leave as soon as their work is complete. It never used to be like that. If we finished our work, we’d ask the other members of the team how their work was going. Then, we’d go home. That’s what teamwork’s about.”

Another veteran employee added: “Workers at the local factories over there write their A3s, too. You know, with the ideal situation, and the current situation here, and the gap. I think maybe the Americans are better than the Japanese at coming up with these logical explanations.”

Fujio Cho talked about an episode when he oversaw launching the Kentucky factory: Ono had taught them about TPS, and when I came along, they showed me respect and obediently followed my guidance. U.S. Toyota’s culture takes the best parts from both Japan and the U.S. It makes it easier for the local people to accept. We even trained the contract employees, so that they could do a complete and proper job. There were many times when I used tatemae, and people said I was lying. So, I decided from then on to only use honne (speak my mind). When I said do something, I meant it. And the Americans trusted me for it.”

“When I went fishing with one of the locals, the tackle was different to what I was used to, so I couldn’t catch any fish. And when he noticed, I told him, it’s because the equipment is different. So, he lent me some of his equipment and even helped me bait the hook. In Japan, it is normal to guess and “read the air,” but in the U.S. you should never guess. Respecting the intentions of the other person is important. On American dramas, the wife might ask the husband, “Do you need me to help?” So even husbands and wives confirm their intentions with each other.”

### *Business Development in an Emerging Market - India*

Toyota's has a very strong commitment to communication within the factory. In factories in Japan, the workers try all kinds of methods to solve various problems immediately on the spot. The A3 and the andon cord are just some examples. But the indispensable element in solving problem is close communication between employees. In Japan, this communication takes place everywhere every day, and usually at the site of the problem. But in overseas factories, this is not always the case. It is a characteristic of the Japanese to discuss problems as a team and to come up with a solution together. But the action of confirming through daily communication whether there is a problem does not occur in overseas factories unless there is some trigger. Casual communication during breaks or in passing that happen naturally in Japan do not always happen overseas. So, it is necessary to create a trigger. In the Indian factories, that trigger was an assembly room. The concept for the Bangalore factory clearly states that the provision of an assembly room was necessary for bringing employees and letting them communicate. By creating more of these types of spaces than in Japan and letting employees come together in one place, Toyota was able to consciously create opportunities for active communication. The assembly room clearly shows how Toyota values informal communication between employees and how it tries to reflect it across different cultures.

According to one Toyota employee seconded to India, it took a very long time to raise the awareness of rules there. For example, due to safety, the zones where it is permitted to walk are marked around the factory. Many took time to understand why they could only walk in those places. Toyota marks the places where it is safe to walk in its factories by painting the floor green. The first day of training includes telling all employees that they must not step outside the green walking zones. But for them, it was natural to take the shortest distance. So even though there was a rule, it was not wrong to break it. There was no tacit understanding that the rules were there to protect everyone. It took more time and effort to spread this understanding than it did to teach the work. But the leaders dispatched from headquarters had faith and remained persistent that one day they would be able to persuade them of its importance. Part of the company philosophy was to repeat until it is understood, anything that cannot be learned in a day. In this way, eventually, the leaders could bring the workers round to their way of thinking. Frank continuity is an important element of Toyota's human resource development.

The same can be said for the work carried out in the factory. Standard work in Toyota is vital in securing product quality, but it was very hard for the workers in India to perform work in a standard way. For Japanese, if work is prescribed in a certain way, it is natural to carry it out that way. But this is not true in India. Although it might be natural for Japanese and Westerners to obey instructions from above, this was not the case at the Indian factory. Even when they said “yes” to work, many were thinking their way was better. And so, when they performed the task, they easily deviated from the standard. It is a legacy of Mahatma Gandhi and the independence movement. Many Indians feel a strong sense of pride and self-esteem in their country from a time when they were fighting propaganda.

But Indians often produce ideas that are hard for the Japanese to conceive. According to Takarada, who served as the factory manager in Bangalore, said that the local workers often came up with innovative ideas. One example was how they gathered offcuts from the press and combined them to create an extra piece. As the company usually discarded these offcuts, it was a more efficient use of resources. It is worth noting that although Bangalore at the time was the newest factory, its press shop achieved Toyota Global's top yield rate. Attempts were also made to incorporate opinions from locals in the Indian factories.

## 13. Toward the Future of Toyota and Japanese Companies

Toyota makes efforts to promote communication between the 300,000 employees of its affiliated companies around the world. For example, it is trying to develop the A3 concept for problem-solving. But it is not easy to unify the thinking process as the organization expands rapidly and globalization in general moves swiftly forward. Cho pointed out the issues faced by Toyota and other Japanese companies from the viewpoint of human resource development.

"The Japanese culture is about nurturing people, while the American culture is about choosing people. Both have their strengths and weaknesses. When the market is growing, the Japanese model is good because they can make things of decent quality. But things don't look so good when the market is on the decline. When the global financial crisis hit, and the Lehman Brothers went bankrupt, suddenly 30,000 were out of work."

"Americans are used to competition from an early age. And so, more and more people like Steve Jobs, who pull technology forward are born. After the war, Japan had to compete from a position of poverty. Now, the idea that being well-fed and well-clothed makes us civil has had its day."

Toyota is facing a harsh climate. The depletion of fossil fuels, the strengthening of environmental regulations, the rise of makers from emerging economies, the modularization of automobiles, the entry into the industry of Internet companies, autonomous driving technology, and the rapid progression of electric vehicles and other technologies. There are countless challenges and threats to solve. These changes in technology have the potential to change cooperative relationships with parts suppliers. As a global company, we also have challenges such as our relationship with shareholders, the promotion of women, and the low ratio of foreign executives. What should Toyota do to survive in this harsh environment? And what should Japanese companies do to compete around the world? These questions still linger on the minds of TMC's executives, while organizational engineers are looking at culture and corporate DNA for sustainable answers.

## 14. Conclusions

1) Corporate governance is still predominantly based on culture and organizational practice in traditional Japanese organizations, such at Toyota Motor Corporation (TMC).

2) As companies struggle to transform their business models, the Japanese traditional style of management is challanged today more than ever. Japan origined companies such as Toyota need to reconsider legacy talent practices, such as life-time employment.

3) Sharing corporate DNA and cultural values across a diverse group of employees remains a challenge for traditional Japanese organizations, such as Toyota Motor Corporation (TMC).

4) Re-defining competencies, re-training the talent population on modern skills and inclusive business practices becomes priority.

5) While culture and value penetration remain primarily important for global businesses, Japan originated organizations are increasingly confronted with Cultural Intelligence (CQ) practices in their efforts to globalize and revigorate their brands and social values.

## References

1. Gummerus, J. (2013). Value Creation Processes and Value Outcomes in Marketing Theory: Strangers or Siblings? *SAGE Journals.* Retrieved from: https://journals.sagepub.com/ doi/10.1177/1470593112467267#
2. Haksever, C., Chaganti, R., & Cook, R.G. (2004). A Model of Value Creation: Strategic View. *Journal of Business Ethics.* Retrieved from: https://www.researchgate.net/ publication/ 226872391_A_Model_of_Value_Creation_Strategic_View
3. Kaneko, Hiroaki and Vlad, Cristian (2018), Interview with Tetsuya Kaida (Toyota Motor Corporation), Internal Notes.
4. Kaneko, Hiroaki and Vlad, Cristian (2019), Interview with Takeshi Uchiyamada (Toyota Motor Corporation), Internal Notes.
5. Kaplan, R., Norton, D. (2004). How Strategy mapsFrame an Organization’s Objectives, *Financial Executive Journal*, vol. 20 (2), page 40
6. Yin, Robert (2003), Case Study Research: Design and Methods, SAGE Publications, Inc; Third ed

## Additional References:

1. OECD (15 April 2019) OECD Economic Survey of Japan. Retrieved from: https://www.oecd.org/economy/surveys/OECD-Economic-Surveys-Japan-2019-PTT-English.pdf
2. Vlad, Cristian (2018), Interview with Russ Bankson (Toyota Motor Sales), Internal Notes.
3. Vlad, Cristian (2018), “The Toyota Way: Immitate, Improve, Innovate”, Globis Insights.
4. https://globisinsights.com/career-success/the-toyota-way-imitate-improve-innovate/

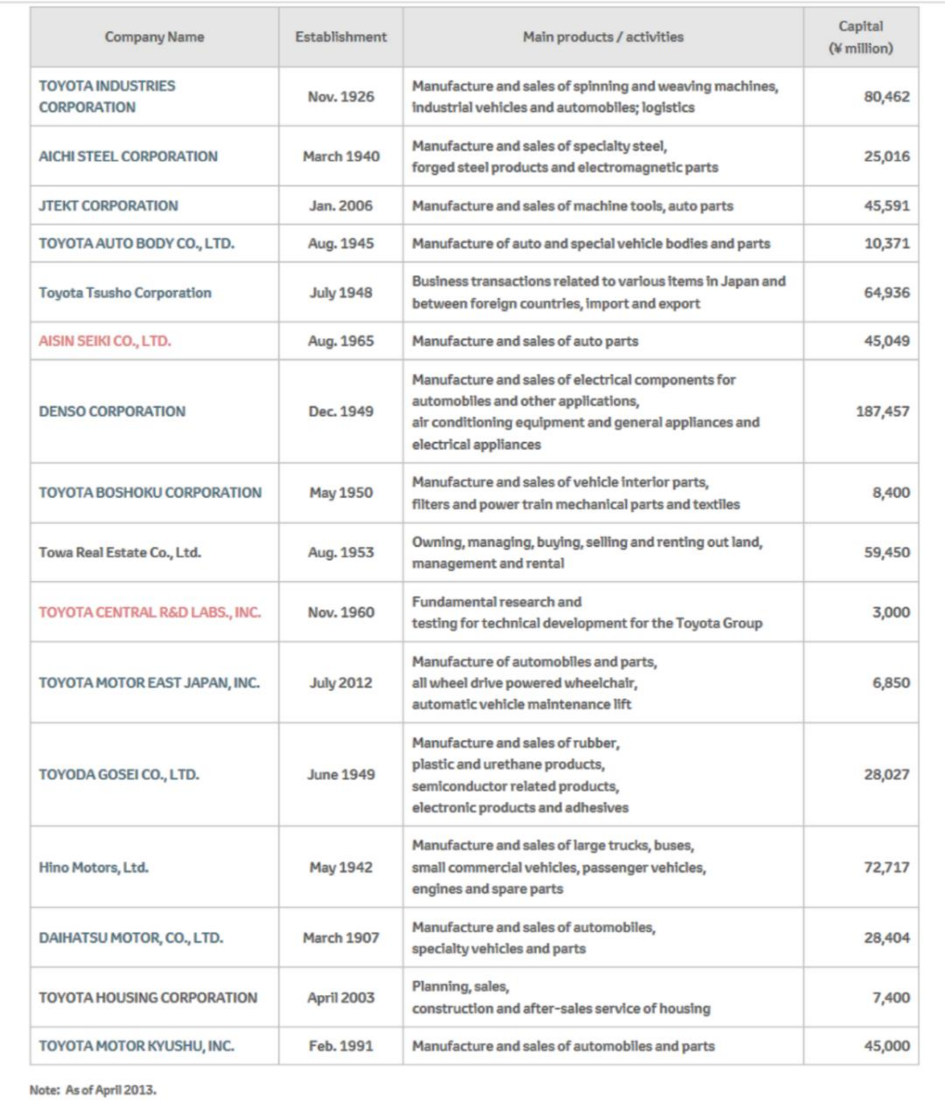
## Appendix: The Benefits of Lifetime Employment at Toyota

American management scholar James Abegglen criticized lifetime employment, the seniority system, and company associations.

Rating agency Moody's lowered Toyota's rating citing lifetime employment systems as a drag on the competitiveness of large Japanese companies. However, in response, management stated, "Toyota's employees are competent and highly loyal to the company is a direct result of the lifetime employment system, so rather than a shackle, lifetime employment is a huge plus for Toyota.” Then-president of Canon, Fujio Mitarai also said: “There are two sides to company management. Product development and financial strategy are immutable, but there are differences in employment practices from country to country, which is due to differences in culture. When entering a new country and hiring employees, you must respect the local culture. In Japan, we should respect lifetime employment. The advantage of lifetime employment is that employees are familiar with the company's business throughout their life. They produce results and then understand the management policies and culture. As a result, attachment -- or in other words, the spirit of love -- toward the company which is their community is born. This employment practice lies in the culture of Japan, and I feel it is a valuable core competence in surviving the global market.” In 2003, out of 100 major Japanese companies surveyed, 88 answered that they would preserve lifetime employment.

**Exhibit 1**

Toyota Group Companies



| Company Name | Establishment | Main products / activities | Capital (¥ million) |
|---|---|---|---|
| TOYOTA INDUSTRIES CORPORATION | Nov. 1926 | Manufacture and sales of spinning and weaving machines, industrial vehicles and automobiles; logistics | 80,462 |
| AICHI STEEL CORPORATION | March 1940 | Manufacture and sales of specialty steel, forged steel products and electromagnetic parts | 25,016 |
| JTEKT CORPORATION | Jan. 2006 | Manufacture and sales of machine tools, auto parts | 45,591 |
| TOYOTA AUTO BODY CO., LTD. | Aug. 1945 | Manufacture of auto and special vehicle bodies and parts | 10,371 |
| Toyota Tsusho Corporation | July 1948 | Business transactions related to various items in Japan and between foreign countries, import and export | 64,936 |
| AISIN SEIKI CO., LTD. | Aug. 1965 | Manufacture and sales of auto parts | 45,049 |
| DENSO CORPORATION | Dec. 1949 | Manufacture and sales of electrical components for automobiles and other applications, air conditioning equipment and general appliances and electrical appliances | 187,457 |
| TOYOTA BOSHOKU CORPORATION | May 1950 | Manufacture and sales of vehicle interior parts, filters and power train mechanical parts and textiles | 8,400 |
| Towa Real Estate Co., Ltd. | Aug. 1953 | Owning, managing, buying, selling and renting out land, management and rental | 59,450 |
| TOYOTA CENTRAL R&D LABS., INC. | Nov. 1960 | Fundamental research and testing for technical development for the Toyota Group | 3,000 |
| TOYOTA MOTOR EAST JAPAN, INC. | July 2012 | Manufacture of automobiles and parts, all wheel drive powered wheelchair, automatic vehicle maintenance lift | 6,850 |
| TOYODA GOSEI CO., LTD. | June 1949 | Manufacture and sales of rubber, plastic and urethane products, semiconductor related products, electronic products and adhesives | 28,027 |
| Hino Motors, Ltd. | May 1942 | Manufacture and sales of large trucks, buses, small commercial vehicles, passenger vehicles, engines and spare parts | 72,717 |
| DAIHATSU MOTOR, CO., LTD. | March 1907 | Manufacture and sales of automobiles, specialty vehicles and parts | 28,404 |
| TOYOTA HOUSING CORPORATION | April 2003 | Planning, sales, construction and after-sales service of housing | 7,400 |
| TOYOTA MOTOR KYUSHU, INC. | Feb. 1991 | Manufacture and sales of automobiles and parts | 45,000 |

Note: As of April 2013.

*Source:* Created by Hiroaki Kaneko in reference to the Toyota website

**Exhibit 2**

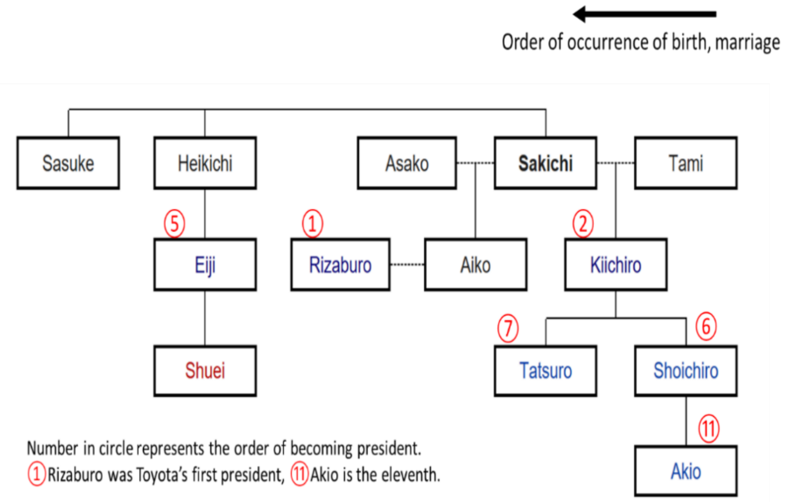
Shareholder Composition of Toyota Motor Corporation (March 31, 2014)

| Shareholder | Number of shares (x1000) |
|---|---|
| Japan Trustee Services Bank, Ltd. | 331,408 |
| Toyota Industries Corporation | 223,515 |
| The Master Trust Bank of Japan, Ltd. | 181,754 |
| State Street Bank and Trust Company | 128,118 |
| Nippon Life Insurance Company | 122,323 |
| The Bank of New York Mellon | 83,412 |
| Trust & Custody Services Bank, Ltd. | 70,824 |
| DENSO CORPORATION | 69,533 |
| Mitsui Sumitomo Insurance Company, Limited. | 66,063 |
| State Street Bank and Trust Company | 55,260 |

*Source:* Toyota website

**Exhibit 3**

The Toyoda Family Tree

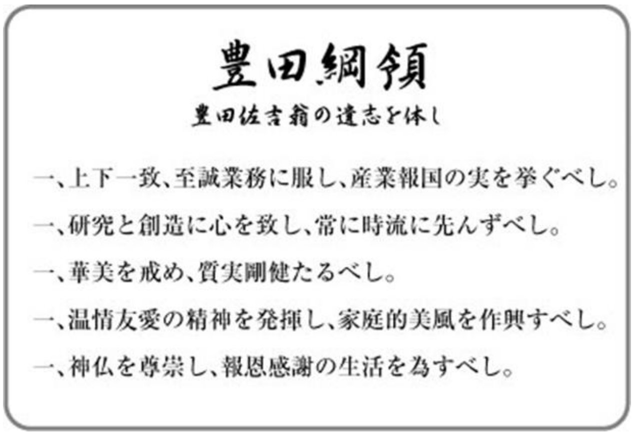

Order of occurrence of birth, marriage
Sasuke
Heikichi
Asako
Sakichi
Tami
⑤
Eiji
①
Rizaburo
Aiko
②
Kiichiro
⑦
⑥
Shuei
Tatsuro
Shoichiro
⑪
Akio

Number in circle represents the order of becoming president.
①Rizaburo was Toyota's first president, ⑪Akio is the eleventh.

*Source:* Created by GLOBIS in reference to the Toyota website

**Exhibit 4**

The Five Main Principles of Toyoda



豊田綱領

豊田佐吉翁の遺志を体し

一、上下一致、至誠業務に服し、産業報国の実を挙ぐべし。

一、研究と創造に心を致し、常に時流に先んずべし。

一、華美を戒め、質実剛健たるべし。

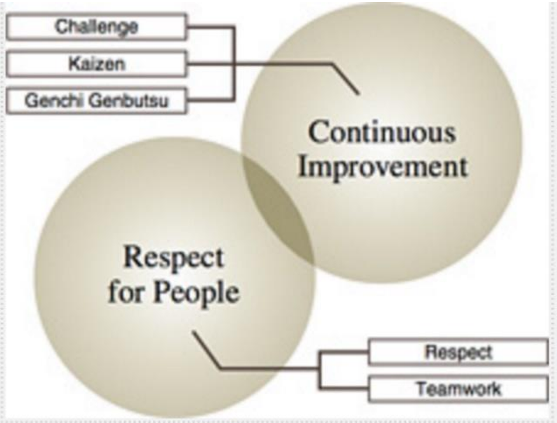
一、温情友愛の精神を発揮し、家庭的美風を作興すべし。

一、神仏を尊崇し、報恩感謝の生活を為すべし。

- Always be faithful to your duties, thereby contributing to the Company and to the overall good.
- Always be studious and creative, striving to stay ahead of the times.
- Always be practical and avoid frivolousness.
- Always strive to build a homelike atmosphere at work that is warm and friendly.
- Always have respect for spiritual matters, and remember to be grateful at all times.

*Source:* Toyota website

**Exhibit 5**


Challenge
Kaizen
Genchi Genbutsu
Continuous Improvement
Respect for People
Respect
Teamwork

The Toyota Way

*Source:* Toyota website

**Exhibit 6**

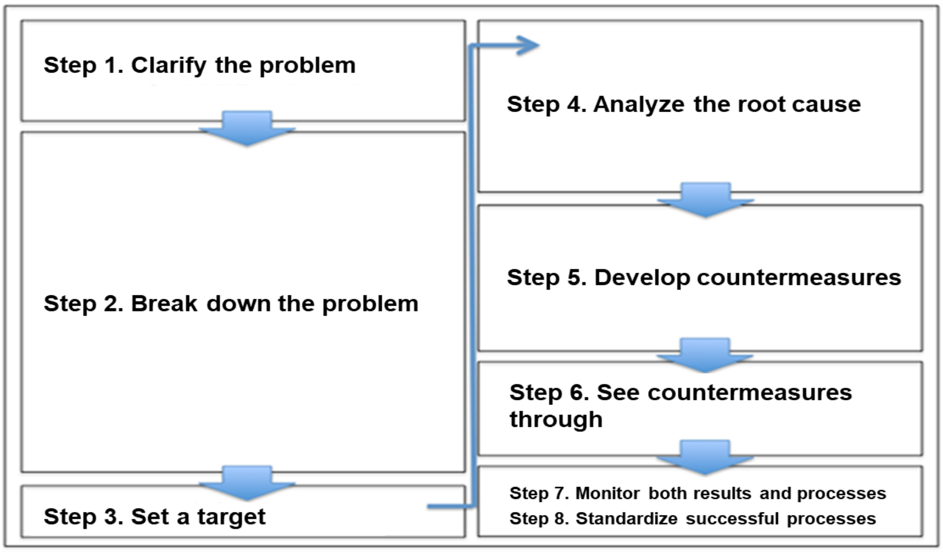
“Good products, good thinking” banner

械
加
工
MACHINING
机械加工
기계가공
よい品よい考
FORGING
鋳
造
CASTING

*Source:* Toyota Commemorative Museum of Industry and Technology

**Exhibit 7**

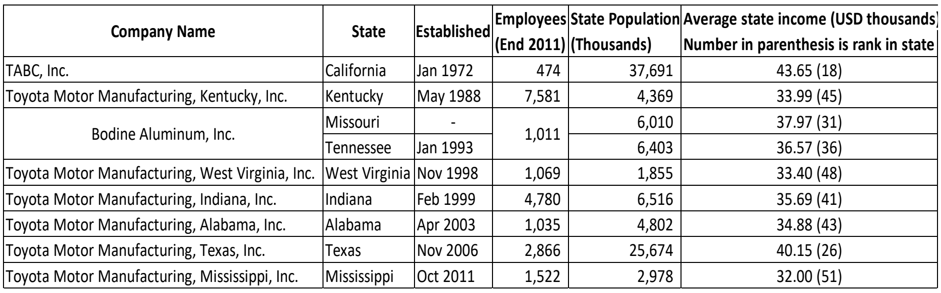
The flow of Toyota Problem-solving (8 Steps)


Step 1. Clarify the problem
Step 2. Break down the problem
Step 3. Set a target
Step 4. Analyze the root cause
Step 5. Develop countermeasures
Step 6. See countermeasures through
Step 7. Monitor both results and processes
Step 8. Standardize successful processes

*Source:* Created by case writer based on OJT Solutions Corporation
"Toyota's Problem Solving" Chubu Publishing (2014)

**Exhibit 8**

Toyota's Business in the United States



| Company Name | State | Established | Employees (End 2011) | State Population (Thousands) | Average state income (USD thousands) Number in parenthesis is rank in state |
|---|---|---|---|---|---|
| TABC, Inc. | California | Jan 1972 | 474 | 37,691 | 43.65 (18) |
| Toyota Motor Manufacturing, Kentucky, Inc. | Kentucky | May 1988 | 7,581 | 4,369 | 33.99 (45) |
| Bodine Aluminum, Inc. | Missouri | - | 1,011 | 6,010 | 37.97 (31) |
| | Tennessee | Jan 1993 | | 6,403 | 36.57 (36) |
| Toyota Motor Manufacturing, West Virginia, Inc. | West Virginia | Nov 1998 | 1,069 | 1,855 | 33.40 (48) |
| Toyota Motor Manufacturing, Indiana, Inc. | Indiana | Feb 1999 | 4,780 | 6,516 | 35.69 (41) |
| Toyota Motor Manufacturing, Alabama, Inc. | Alabama | Apr 2003 | 1,035 | 4,802 | 34.88 (43) |
| Toyota Motor Manufacturing, Texas, Inc. | Texas | Nov 2006 | 2,866 | 25,674 | 40.15 (26) |
| Toyota Motor Manufacturing, Mississippi, Inc. | Mississippi | Oct 2011 | 1,522 | 2,978 | 32.00 (51) |

Acquired TABC, Inc. and Bodine Aluminum, Inc. Other companies were created and invested in by Toyota Motor

Number of employees, population and average income by state are as of 2011. The nationwide average for 2011 was $ 41.38

*Source:* Created by case writer from Toyota website;
U.S. Bureau of Economic Analysis, U.S. Census Bureau

**Exhibit 9**

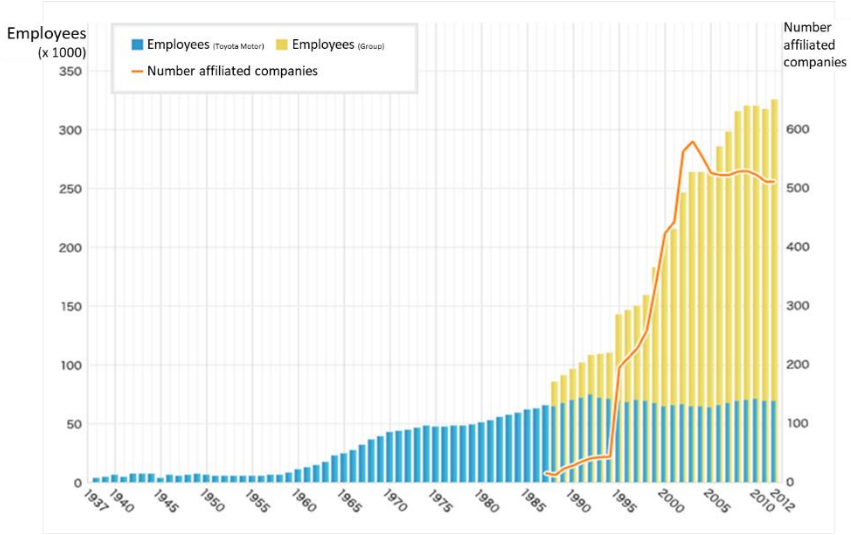
Guiding Principles at Toyota

1. Honor the language and spirit of the law of every nation and undertake open and fair business activities to be a good corporate citizen of the world.
2. Respect the culture and customs of every nation and contribute to economic and social development through corporate activities in their respective communities.
3. Dedicate our business to providing clean and safe products and to enhancing the quality of life everywhere through all of our activities.
4. Create and develop advanced technologies and provide outstanding products and services that fulfill the needs of customers worldwide.
5. Foster a corporate culture that enhances both individual creativity and the value of teamwork, while honoring mutual trust and respect between labor and management.
6. Pursue growth through harmony with the global community via innovative management.
7. Work with business partners in research and manufacture to achieve stable, long-term growth and mutual benefits, while keeping ourselves open to new partnerships.

*Source:* Toyota website

**Exhibit 10**

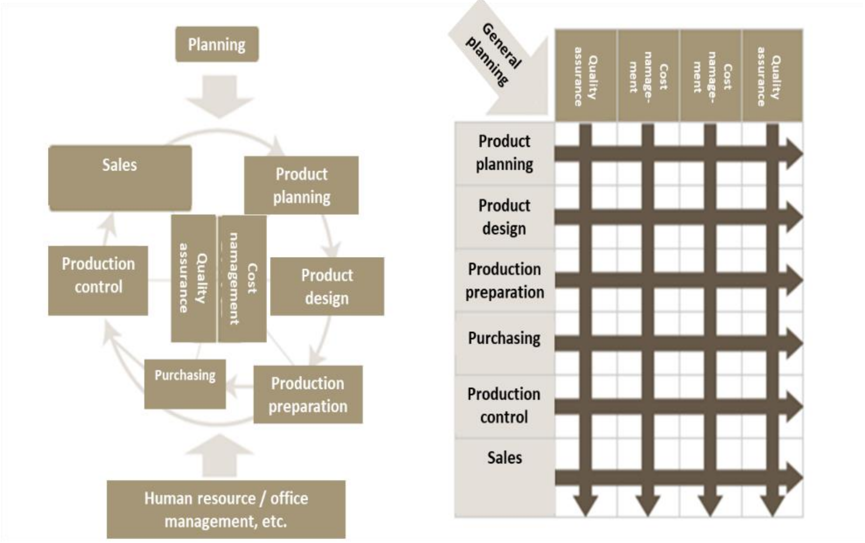
Total Employees



*Source:* Toyota website

**Exhibit 11**

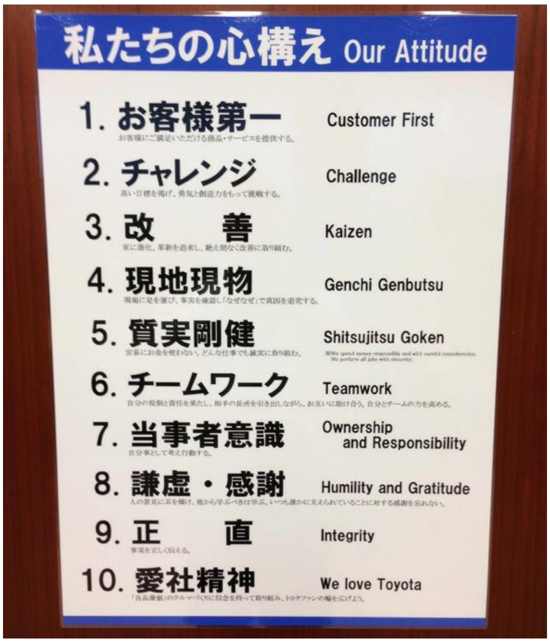
Relationship of Each Function at Toyota


Planning
Sales
Product planning
Production control
Quality assurance
Cost namagement
Product design
Purchasing
Production preparation
Human resource / office management, etc.
General planning
Quality assurance
Cost namage-ment
Cost namage-ment
Quality assurance
Product planning
Product design
Production preparation
Purchasing
Production control
Sales

*Source:* Toyota website

**Exhibit 12**

Our Attitude



私たちの心構え Our Attitude

| | |
|---|---|
| 1. お客様第一 | Customer First |
| 2. チャレンジ | Challenge |
| 3. 改善 | Kaizen |
| 4. 現地現物 | Genchi Genbutsu |
| 5. 質実剛健 | Shitsujitsu Goken |
| 6. チームワーク | Teamwork |
| 7. 当事者意識 | Ownership and Responsibility |
| 8. 謙虚・感謝 | Humility and Gratitude |
| 9. 正直 | Integrity |
| 10. 愛社精神 | We love Toyota |

*Source:* Toyota president’s office Facebook page

## References

This case was compiled from the following published sources.

1. Ohno, Taiichi. Toyota seisan hōshiki: datsu-kibo no keiei o mezashite. Tokyo: Daiyamondo-sha, 1978.
2. Ohno, Taiichi, and Mito, Setsuo. *Naze hitsuyō na mono o hitsuyō na bun dake hitsuyō na toki ni teikyō shinai no ka: Toyota seisan hōshiki kara keiei shisutemu e.* Tokyo: Daiyamondo-sha, 1986.
3. Kamiya, Mitsuo. *Suzuki shōsan: Gendai ni ikiru kinben no seishin.* Tokyo: PHP, 2001.
4. Uzawa, Hirobumi. *Jidōsha no shakaiteki hiyō.* Tokyo: Iwanami, 2002.
5. Uchiyama, Takashi. *Kyōdōtai no kiso riron: shizen to ningen no kisō kara.* Tokyo: Nō-san-gyoson Bunka Kyōkai, 2010.
6. Yamamoto, Shichihei. *Yamamoto shichihei no nihon shihon shugi no seishin.* Tokyo: Bijinesusha, 2015.
7. Weber, Max, and Gen Nakayama. *Purotesutantizumu no rinri to shihon shugi no seishin.* Tokyo: Nikkei BP Sha, 2010.
8. Yamamoto, Shichihei. *Hikaku bunka-ron no kokoromi.* Tokyo: Kōdan-sha, 1976.
9. Watsuji, Tetsurō. *Fūdo: ningengakuteki kōsatsu.* Tokyo: Iwanamishoten, 1979.
10. Sakaiya, Taichi. *Nihon o tsukutta 12nin.* Tokyo: PHP, 2006.
11. „`Gomakasenai' to omou made shitsumon suru – Toyotajidōsha meiyo kaichō Chō Fujio.” PRESIDENT Online – PRESIDENT. Last modified February 15, 2015. https://president.jp/ articles/-/14468.