

Impact of Toyota Recall on Corporate Reputation

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In the 1990's, I presented my paper on target costing in Brazil; once in Rio Grande (1993), and another in Sao Paulo (1994). In those days, I was very often invited to make presentations by researchers in such countries as the Brazil, the USA, Germany, the United Kingdom, Italy, and India because quite a few professors were very much interested in my paper (Sakurai, 1989, pp.39-50) on target costing as it originated in Toyota and my extensive experience with Toyota production systems and management methods.

Participants in this conference room may not know what target costing is. Target costing is a tool for strategic cost management. It was originally developed by Toyota and the Toyota group for cost reduction in the 1960's and 1970's. The concept of target costing, which focuses on reducing costs before production starts, was not known in the Western manufacturing environment. Target Costing became a sort of "secret weapon" for drastic cost reduction in 1980's and 1990's for such assembly-oriented industries as automobile, home appliances and others, and is now widely practiced. To a certain extent Target Costing may be related to Toyota's current problems, although in an ambiguous way, which I will discuss later.

Today's theme, however, is not costing but reputation. If there are some who have interest in target costing, refer to my book written in English entitled *Integrated Cost Management*, Productivity Press, 1996 (Sakurai, 1996, pp.37-68) and its translation into Portuguese published in Brazil (Sakurai, 1997, pp.49-75). Toyota and its group has developed many new management concepts and tools as total production maintenance (TPM), Kanban system (JIT), target costing, lean management, the Toyota way and others. The quality of Toyota products is now regarded as very high by a majority in the world. Toyota became a point of Japanese pride by showing that we could compete, and even dominate, in world markets.

I have come back to Brazil once again, and my theme also relates to Toyota. However, my feeling is quite different from that of the last visit. At the last presentation, in spite of my poor

English, my presentation was welcomed by a hearty cheer. But I am, in fact, gloomy this time. I will frankly discuss the Toyota recall issue from the standpoint of corporate reputation. Concretely, I will talk about real discussions now happening in Japan, as well as the real cause of the quality problem, and the status of the Japanese economy and society. Finally, I will sketch out possible countermeasures to regain reputation of Toyota¹.

Before talking about the topics I had better outline my intention of this paper. Toyota has never trumpeted their quality. The image of Toyota quality is mainly a creation of secondary messaging such as Consumer Reports, the J.D. Power surveys, and other sources that evaluate automobile quality. This is not to say that Toyota does not believe that they are the best and act like it, but they are extremely careful to make only modest public statements. From this aspect, Toyota's reputation has been given by the environment. So, the question of what can change the reputation is interesting. In this paper I will outline different types of fact that are connected with the current issues at Toyota. First, the engineering facts including facts revealed by Toyota about some of the specific issues. Second, the public discussion of quality as it related to Toyota.

1 What was the Toyota Recall Problem? Engineering facts.

On August 28 2009, a Lexus ES350, driven by a California state trooper crashed, killing him and three members of his family. The cause of the crash was a floor mat, made by Toyota, which slipped forward while he was driving, and which entrapped the gas pedal and prevented it from returning to the zero point, or top position. The car crashed at an intersection at 180 km (111 miles)² per hour. Toyota's examination of this accident was published in 2010 (Toyota recall data collection team, 2010).

In eight types of the 3.8 million Lexus cars sold in the US and Canada, if the floor mat is installed inappropriately at any time, such as by a customer cleaning the mat, the pedal may come into contact with the pedal and may lead to an accident—that was the reason Toyota gave regarding the accident. Basically, the pedal on these cars was designed to come close to the floor of the vehicle so anything with a height of more than about 15 mm. under the pedal could come into contact with the pedal. It was discovered that around 100 similar events had been reported to the US authorities (*Weekly Toyo Keizai*, 2010, pp.56-62). It is likely that many drivers encountered

¹ I acknowledges Mr. Mitsuru Ohno, General Manager at Toyota CSR & Environmental Affairs Div. and Mr. Satoshi Kato, Group Manager at the same Div. for supplying me with valuable data.

² According to the Toyota recall data collection team (2010, p.10), after the crash accident was highly publicized, it was found that the crashed Lexus was on loan, and the floor mat for a different Lexus model was installed in the ES350 in which Mr. Mark Saylor was killed. There is also an article reporting that the speed of ES350 was at 190km per hour at the time of crash (*Weekly Toyo Keizai*, 2010, p.60).

this design element and either changed to different floor mats or removed their mats or attached them to the floor of the vehicle so they would not slip forward.

Toyota took external action on the mat problem on September 29, 2009, approximately one month after the crash by announcing a recall. On October 5, 2009, Toyota sent direct mailings to advise the owners of target type cars to remove the floor mats from their vehicles. At the same time, however, a Toyota executive insisted that there was no design defect in the car (The Nikkei, 2010). The National Highway Traffic Safety Administration (NHTSA), however, took a different view, arguing that there might be some problem in the pedal as well as the speed control system of the car as well.

The controversy finally reached a point, on November 25, 2009, when Toyota announced that they would take voluntary remedial measures. Instead of removing the pedal, Toyota decided to shorten the length of the existing pedal to prevent it from being entrapped by the floor mat, or in some cases, to exchange the existing pedal with one of a different design. This had the effect of making the pedal higher off the floor of the car. Toyota also announced that we would adopt a system that would automatically release the accelerator if both the accelerator and brake pedal were depressed hard at the same time. The number of target cars affected by this new measure ballooned to over 4.26 million. Note that the thick all-weather type mat which had caused the crash had been installed only in Lexus cars sold in the US and Canada based on specific and different preferences of North American purchasers. This appears to be a design issue which had not been encountered previously.

Toyota came into the spotlight again on January 21, 2010 with a different case which was generally not distinguished from the first case in news reports, but treated as an extension of the first case. Toyota made an announcement that the gas pedal might not return on some vehicles, even if it had not been entrapped by the floor mat. The automaker recalled some 2.2 million of eight types of their top selling cars in the US, including the Corolla and Camry. Note that this recall does not include the same vehicles as in the first set of recalls. This recall is a different issue with the gas pedal failing to return to top position, evidently due to excess friction. The basic issue is that with electronic fuel systems the designer attempts to mimic the feel of the old mechanical cable system by adding specific amounts and types of friction to the pedal linkage. One of the materials in the system turned out to develop a slight stickiness after several years of use in some environments. Most pedals do not have this problem and the environmental factors that lead to the stickiness in some circumstances has not been determined.

A third event occurred in February 2010, more than 50 owners of new Prius hybrid cars reported possible malfunctioning brake controls in their cars to the US Department of Transportation. On February 5, Toyota's President Akio Toyoda, held a late-night press conference

at which he suggested that the ABS (Anti-lock Brake System) in the Prius brake controller might take some time (a few extra milliseconds) to react while driving on slippery road surfaces. Following this, Toyota announced a recall of some 400,000 vehicles worldwide for four types of cars, including the Prius to reset the allowed time. This issue involved a setting in the software that controlled the amount of time that wheel slip was allowed before starting an automatic assist. It is mainly regarded as a customer comfort issue since it does not appear to have any impact on safety as understood in purely rational senses. However, this, of course, is a key element of the reputation concept, that it is owned by the customer not the engineers.

Of the three issues described here, none have been actually experienced by more than a handful of Toyota drivers (less than 1000 total reports for all three issues). So, at the level of immediate experience these problems can have almost no direct impact on the reputation of Toyota to most consumers. Most of the impact will be from secondary information such as news reports.

Having concluded that the defects in issue 2 above, were due to a malfunction of the gas pedal and other parts, Toyota embarked on large-scale improvements to these recalled vehicles. The suspicions of some US critics, however, were raised, since they believed that the true cause of the accident was within the electronic control system of the engine, and that Toyota was hiding this fact. In response to these suspicions, President Akio Toyota attended a public hearing on February 24 (25 in Japan), 2010, to answer questions from the US House of Representatives Oversight and Government Reform Committee.

At the hearing, Akio stated the following three points: First, he apologized for any lack of focus on customer needs that had resulted from his company's too rapid business expansion. Second, he regretted not giving the authority to their US affiliate to independently announce a recall: from now on, their US affiliate would be able to conduct a recall whenever they needed to. Third, no defects had been found so far in the electronic throttle control system (ETCS). What was revealed during the two-day public hearing was the problem with the ETCS issue, which had led to the widespread view in the US that the ETCS was the possible cause of sudden acceleration³.

On April 5, 2010, US regulators decided to impose a civil fine of 16.375 million dollars (approximately 1.5 billion yen) on Toyota for their alleged delay in making public the defects that led to the recall. Toyota has agreed to pay though Toyota denies NHTSA's allegation that it

³ I own a Mercedes-Benz S-class now, but before that, used to drive Toyota's Celsior (Japanese version of Lexus). When I drove the Benz for the first time on a highway (Tomei Expressway) four years ago, the car dropped its speed suddenly from 100km/h to 40km/h. Fortunately, I avoided a fatal accident, but the reason of sudden speed decline was unclear when I asked the dealer. After a while, the dealer informed me that the speed decline happened because I had changed the genuine Benz keychain to a different one, and that the changed keychain caused speed decline when it hit the leg while driving. The dealer warned me not to change the genuine Benz accessories to other products from now on. I did not blame the manufacturer Mercedes Benz, just like most Japanese people would not do, but took it as my own responsibility. Nevertheless, it is difficult to judge whether to be blamed is a bug of accessory or the responsibility of user.

violated the Safety Act or its implementing regulations. Toyota agreed to this settlement in order to avoid a protracted dispute and possible litigation, as well as to allow it to move forward fully-focused on the steps to strengthen its quality assurance operations. This will also allow drivers to focus on delivering safe, reliable, high quality vehicles for customers and responding to consumer feedback with honesty and integrity.

2. What were the true reasons of Toyota recall problem? Reputation facts.

Toyota's recall problem can be looked at from three angles. One is the large volume of recalled cars. The second is the investigation into the cause of the malfunctions. The third is the clarification of causes that led to the recall and malfunction. Each problem, seen from these three angles, is discussed separately below.

1) Toyota was not the only maker to recall vehicles

Nowadays, only Toyota is in the spotlight for recall problems, but what about recalls by other automakers? Let's look at the status of recalls by major automakers after October 2009, according to Yamazaki (2010, p.16). The number of recalls by major automakers, mainly in Japan and the US, is shown in Table 1.

Table 1: Recalls by Major Japanese and US automakers after October 2009

Name of manufacturer	Number of target vehicles	Reason(s) for recall
Toyota Motors	8.5 million	Gas pedal height, Gas pedal return, brake control of hybrid cars
Nissan Motors	860,000	Brake pedal, fuel system
Honda	1.5 million	Air bag, brake-related problem
GM	1.3 million	Power steering-related problem
Ford	4.5 million	Vehicle speed control system, brake-related problem of hybrid cars

Regarding recalls by Japanese automakers other than Toyota, Honda announced a recall of some 450,000 vehicles, including the Odyssey minivan in the US and other areas on March 16, 2010. Honda conducted a recall for a brake-related problem in spite of no evidence that a brake malfunction had caused any accidents. Nissan Motors recalled some 540,000 vehicles, including the Titan pickup truck, mainly in the US, due to a malfunction of the brake pedal. How about US

automakers? On March 2, the same day as Nissan announced its recall, General Motors (GM) recalled some 1.3 million vehicles, including small-size cars, due to the risk of problems with controlling the power steering system.

One of the aspects of this issue is that Toyota has been successful at selling extremely large volumes of a narrow range of vehicles. They have, by far, the highest average sales per model of all manufacturers except Honda. This has many implications; in this case, it means that errors in design will be extremely widely dispersed. If we add to this the effects of several decades of methods such as Target Costing, which leads to replication of good solutions across brands, we have a situation where Toyota's specific type of success has lead to possible engineering "facts", or weaknesses such as recently observed.

2) The cause of the malfunction—Was there a problem in the ETCS?

In the fatal Lexus ES350 accident in August 2009, which killed a California state trooper and his family, the Toyota designed floor mat slipped forward and trapped the gas pedal at a high acceleration point, which killed a California state trooper and his family members. The floor mat was not the correct one for the model and was not correctly installed. The problem with the floor mat itself could be viewed as a mechanical problem. Since the thick all-weather type floor mat which caused the accident was installed only in Lexus cars sold in the US and Canada, the Japanese public saw the problem differently than did American TV viewers.

In the public hearing on February 24, 2010, the US authorities made it clear that the focus of attention was not a mechanical problem, but a systemic defect in the ETCS. The Chairperson, Edolphus Towns Jr. of the US House of Representatives Oversight and Government Reform Committee, commented that there was widespread public concern regarding reports of sudden unintended acceleration in Toyota motor vehicles, and the Secretary of Transportation, Ray LaHood, announced that the NHTSA was conducting a technical review of the possibility that electromagnetic interference with the ETCS was causing sudden unintended acceleration. These comments indicated that the focus of investigation was shifting from a mechanical problem in parts to a problem with the ETCS.

Meanwhile, Dr. Jeffrey Liker, a professor at the University of Michigan who researched Toyota's electronic control system, suggested that three misunderstandings were behind the Toyota recall problem (Liker, 2010, p.112). First, the media gave the wrong impression that the problem of sudden unintended acceleration was unique to Toyota cars. Vehicles manufactured by GM, Ford and Chrysler had also suffered accidents due to similar problems, and a long series of lawsuits had been filed concerning these accidents. Second, many media reported that the cause of the crash could be traced to the electronic control system although there does not appear to be any

evidence of this. At this point, however, it is not proven that the ETCS was the reason for the sudden acceleration of the Lexus. For safety, the system has two separate types of CPU (central processing unit) installed, and two sensors are attached to the brake pedal. Therefore, the system is designed to cause no accident unless both CPUs malfunction at exactly the same time. The risk of this happening is statistically very slim; but even if the two CPUs do malfunction at the same time, the system is designed to cut off the fuel supply and the car will come to a halt. Third is a view that indicates a problem in Toyota's production system, but the cause of the recall is not traceable back to Toyota production lines. Dr. Liker suggests that what should be in question is the design, rather than the manufacture, of cars.

According to Dr. Liker, the US government's critical attitude towards Toyota is adding to the background of growing misunderstanding on the part of the public (Liker, 2010, p112). Unlike the Republican Party, which is more pro-industry, the Democratic Party wants to make it clear that they support consumer rights. Taking on a top automaker is an easy way of winning public support. Ford has recalled as many as 4 million vehicles, but Toyota, a company with the world's top-class share and a strong safety image, is an easier target, Dr. Liker suggests.

In contrast with Dr. Liker's comments, Dr. Kent Calder (Director of the Reischauer Center for East Asian Studies at Johns Hopkins University in the US) explains that the reason the Toyota recall problem has become such a major issue is not because of Japan-bashing, or people anxious to make political capital out of it, but because it was linked to consumer safety. In the 1990s, the Democrats and labor unions worked together to bring auto issues into the public eye, but different political dynamics are at work in the Toyota recall case, Dr. Calder says. The White House is not actually capitalizing on this recall. He has the impression that the US itself is not adopting a partisan strategy, but that some US congress members who were close to domestic or Korean automakers were leading the severe criticism of Toyota.

3) Were there problems with management quality?

Were Toyota's recall problem tied to problems with management quality? Let's look at the seven main criticisms or arguments of Toyota.

① Slow to react

Johnson & Johnson announced the recall of their painkiller Tylenol in 1982 when potassium cyanide planted in the product led to fatalities, even though the cause of death was not fully known when the recall was announced. A rapid decision to recall products is often viewed as successful risk management. Japanese corporate managers, however, have a tradition of respecting group decision-making, so their responses to problems are often slower than their US

and European counterparts. Toyota's response to the recall problem was no exception. All the media, not only in other countries but also in Japan, found fault with Toyota's slow response to the problem.

Why was the response so slow? One reason may be that Toyota had been using ETCS successfully in Japan since at least 2003, without any malfunctions serious enough to become a public issue. Another reason is that, since the automaker's recall involves cars, and Toyota has deeply established practices that mandate very thorough and careful engineering analysis. Their engineering analysis is much slower and more thorough and careful than US or European engineering practices. The end result is that they act much faster since they usually arrive at a better and more consensus-based conclusion, so significant time is needed before Toyota can actually determine that a defect exists. Then, the cause of problem is investigated, and the results publicized. This is an extremely well known facet of Japanese engineering, and Toyota is an extreme example of this, even in Japan. Thus, much time is needed to review the situation, which makes the situation entirely different from the case of medicine recall's like Tylenol where it was clear that a defect existed. If Toyota had provided a swift conclusion to the August 28, 2009 accident, which was not reported correctly on the TV news, would it have been the right choice? It may be unclear what should be regarded as truly useful information for customers.

② Did Toyota prioritize cost cutting over driver safety?

Surprisingly, there have been few complaints that Toyota has been neglecting customer satisfaction. Nevertheless, the argument does exist. Some critics claim that Toyota is not on the side of their customers. From the perspective of safety science, Professor Masao Mukaidono of Meiji University claims that Toyota has not been truly on the customers' side, since the realization of failsafe devices (meaning that all systems should be set up always to work on the "safe side" if a vehicle is malfunctioning or being operated erroneously) in cars is extremely difficult. As this type of problem can happen to any automaker, it is important not to ignore any possibility and to leave room for open-minded consideration, according to Professor Mukaidono. Mr. Yoshihiko Sato (2010, p.129), head at VPM Engineering Laboratory, regretted that Target Costing is not practiced as it should be in the US. Meanwhile, some academics like Dr. Paul Dholakia, Associate Professor at Rice University, take the view that Toyota's long-term prognosis is promising and that it can be a textbook example of how consistent prior customer satisfaction can insulate the brand, even if it falters, referring to the results of a survey of 455 people across the US ⁴.

⁴ In the survey, respondents are asked if they would like to purchase Toyota when they purchase a new car, on the scale of 1 to 10 points (10 being the highest purchase intention). Among the owners of Toyota vehicles, the average answer was 8 points, while it was 4 points among the owners of other brand cars. The survey was conducted from February 20 to March 2, 2010.

③ Was Toyota's poor quality control at overseas factories a cause?

Mr. Masakazu Tanaka, at the Institute for Technologists, the ex-Director for Production Research Department of Toyota Motors, criticizes Toyota's lack of quality control overseas (2007, pp.106-115). Toyota has been outsourcing production to a parts maker (CTS) in the US, and the parts manufactured by CTS were also installed in Toyota vehicles sold in Europe and China as well as North America. According to Mr. Tanaka, who was engaged for many years in improving Toyota's production system at the front lines of production, this kind of system—pursuing “the world's best optimized procurement,” whose downside has been revealed by the malfunction of the gas pedal—runs counter to authentic Toyota thinking.

Not everyone agrees with this view. Mr. Satoshi Hino, Director of Monozukuri (craftsmanship in English) Management Institute Imagine, does not believe that the excessive adoption of common parts at Toyota expanded the scale of the recall (2010, pp.116-123). Instead, he suggests that the real cause of the problem is the failure to both unify parts and guarantee quality. Dr. Takahiro Fujimoto (2010, p.94) at the University of Tokyo, a leading researcher in the field of automobile-related manufacturing, holds similar views. He suggests that there is no single answer to the question as to whether the adoption of common parts has a positive or negative impact on vehicle quality. He also points out that, rather than the introduction of common parts, the problem was because Toyota was facing the issues of complication of product design, complication of global product mix, complication of production base network, rapid expansion of production volume and other factors, all at the same time. Therefore, Toyota's supply of human resources for quality control might not have been able to tackle all these issues, particularly at overseas bases, Dr. Fujimoto suggests.

④ Was Toyota's lack of corporate governance a cause?

There is a view that blames a lack of corporate governance at Toyota as a result of having returned management to its founder family (The Economist, 2010, pp.10-11). In general, dominance of a founder family is believed to lead to poor corporate governance. Based on lessons learned in the past, however, it appears that the founder family members of Toyota, unlike the non-founder family executives, have always frowned on the pursuit of short-term profits and the decreased quality that often results.⁵

Another argument in this view is that the lack of an outsider perspective is another possible

⁵ There is one anecdote. It is said that, regarding the forecast of operating profit for 2008, Toyota had three possible scenarios: 100 billion yen in the black, zero profit, or 150 billion yen in red. The vice president and president (at that time) were against showing a deficit, but the founder and the Honorary Chairperson Shoichiro Toyota claimed that “Deficit is not good, but lying is worse” (Inoue and Ito, p.28). “Lying” here does not mean to change the facts, but indicates that they should always show the figures closest to the severe reality they are facing.

cause of the Toyota recall problem (The Economist, 2009, p.11). This view argues that not one of the 29 members of Toyota's executive board has complete independence from the company⁶. There used to be only one non-Japanese executive on the Board, but he was headhunted by a US automaker. In the 1990s, Hewlett Packard (HP) and Motorola recruited executive human resources from third parties and restructured their company organization several times. As a result, HP regained its performance. The editor of The Economist who reported on Motorola's restructuring efforts stressed the need to improve corporate governance by recruiting executive human resources from outside. The other argument, focusing on the need for an outsider perspective at Toyota, is fairly relevant, but it should also consider the fact that Japanese companies, including Toyota, choose some of their auditors (normally two to four auditors) from outside organizations such as universities⁷. In the current situation in Japan, it is not easy to judge which is better: companies with a committees or companies that use an auditor system.

⑤ Is the Toyota recall problem indicative of a sinking Japanese economy?

Newsweek on March 15, 2010 posts a comment by Mr. Devin Stewart, Program Director and Senior Fellow, Carnegie Council for Ethics in International Affairs. In the article, he suggests that Toyota's recall is a problem with its roots in Japanese politics, society and economy; and that Toyota—which was Japan's last fort, has now toppled (Stewart, 2010, pp.37-38). Downward trends in Japan can be clearly observed here and there. Mr. Stewart lists the woeful state of the reigning Hatoyama Cabinet, the “Hikikomori” (withdrawing from society) phenomenon observed among people in their 30s to 40s, what should be their most productive years; the extremely low and declining birth rate, the low productivity of Japan's agriculture, retailing business and government, the rapid turnover of prime ministers—three since the Koizumi Cabinet in 2006—and Japan's inability to ‘get a grip’ in the competition against China. Mr. Stewart's list contains a lot of unpalatable truths. This article, written by a foreigner, will be received with disquiet by Japanese corporate managers. There is a similar argument focusing on the so-called “big firm disease” that is supposedly harming Toyota (Inoue and Ito, 2009, pp.30-33). Nevertheless, few commentators find a direct link between trends of decline in Japan and the Toyota recall problem.

⁶ Unlike other countries, Japanese corporate governance system primarily uses an “auditor system” unique to Japan, in addition to the Western committee system. Very few Japanese companies use the western-style committee system with independent board members. Toyota is a typical example of most Japanese companies in using the auditor system. According to Corporation law, more than half of the all auditors must be selected from third parties. Therefore, Toyota appoints four executives (auditors) from third parties.

⁷ From my past experience of serving as an auditor and an executive director for NTT DoCoMo and other companies as well as my current experience of working as an auditor for SRA Holdings, Inc., I believe that the Japanese corporate auditor system functions well unless the auditors do not decide their moves by looking at the face of top management. From my experience, auditors consider the future of their companies deliberately, take into account the results of discussion done by the board of auditors and make good remarks.

⑥ Was Toyota's overconfidence in their quality a cause of the recall?

Dr. Takahiro Fujimoto at the University of Tokyo (2010, pp.92-94) claims that Toyota's overconfidence in their quality and ability to design cars is the root cause of the recall problem. Nowadays, the complex nature of auto design is an inevitable challenge that faces all automakers in advanced countries. Since Toyota is at the front line of this challenge, it is also in a position to experience failure ahead of other automakers. Toyota, however, has a character that is much different from western organizations: it will not give up if it fails. Toyota's internal culture has always viewed failures as actions which are part of eventual success if people persist. When it stumbles, it regains its foothold and keeps on running. This is how Toyota will revive itself. It is difficult to provide proof the Toyota's overconfidence is the fundamental cause of the recall.

⑦ Is corporate reputation not needed if the company engages in CSR?

In Japan, most companies engage in corporate social responsibility (CSR) activities very eagerly. Toyota is no exception: for example, it donates 1% of its profits for social activities as part of CSR, while also making constant efforts towards risk management, internal control and others. The recall problem, however, did in fact happen. Why? One reason might be the delay in adopting the concept of reputation management in Japan. If research on reputation management had also included studies on internal control and risk management, issues such as the Toyota recall problem might have been pre-empted. At least, people who have studied reputation management will be well aware of the outcome caused by the slow response to the problem and how severely the company will be criticized by society.

3 The effects on corporate value of damaging corporate reputation and its measures

A tarnished corporate reputation pushes down corporate value. In Western countries, when discussing corporate value, there is a tendency to focus on shareholder value. Japanese corporate managers, however, are more aware that the value of their corporation also greatly affects the company's social and organizational values, as well as its economic values, including shareholder value, and feel that a general decline in these values will eventually impact the company's future economic value⁸ (Sakurai, 2005, 2008), as shown in Chart 1 below.

⁸ According to the survey (Sakurai, 2010, p.2) by questionnaire to Japanese managers listed on the first part on Tokyo Exchange, those who support the argument that corporate value represents economic value was 11.5%, and a majority of Japanese managers (88.5%) support the idea that corporate value is social and organizational value as well as economic value. 1062 surveys were sent to managers in planning, CSR, and intellectual capital departments and 124 replies were received. The survey was conducted from January 1 to February 10, 2009.

Figure 1 Recall issue of Toyota and decline of corporate value

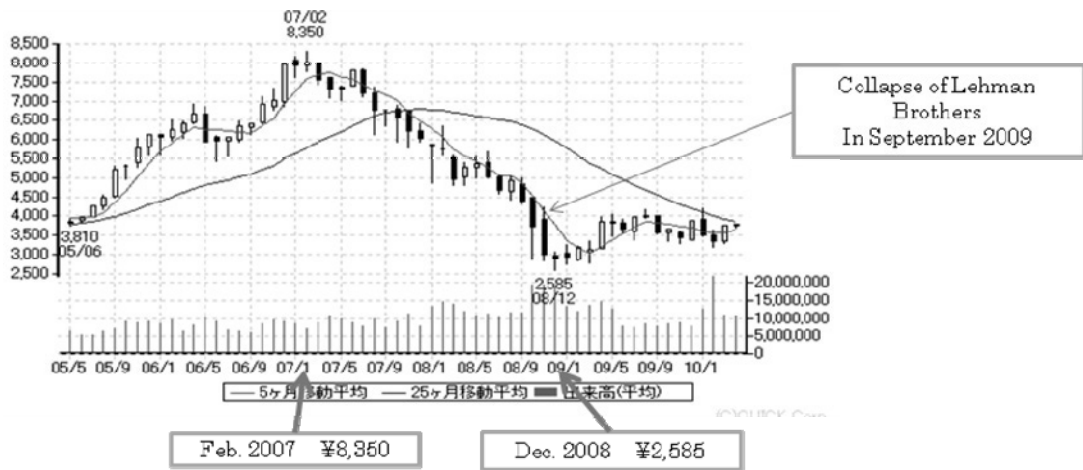


Toyota's recall problem, taken as a whole, tarnished its corporate reputation, which then caused a decline in Toyota's social and organizational values as well as their economic value. How did the whole range of the recall problem affect Toyota's corporate value? I will discuss below what kinds of strategies have been planned by Toyota to improve their corporate value.

1) Effects on Toyota's economic value

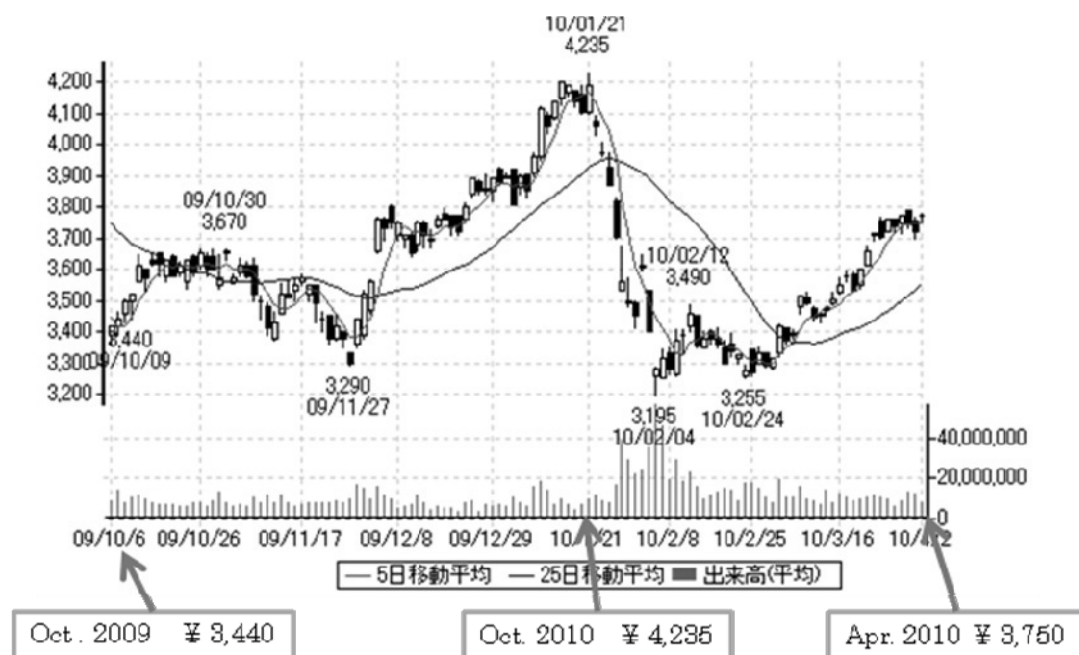
The company's economic value is shown by their stock prices, profits and the present value of future cash flow. First, how did Toyota's stock price react to the recall problem? See Figure 2. Their stock price continued to fall after reaching a peak of 8,350 yen on July 2, 2007, and dropped to an all-time low of 2,585 yen in December 2008, exacerbated by the collapse of Lehman Brothers in September 2009. From this figure we can find two facts: one is that stock price had fallen before the collapse of Lehman shock. Another is that downtrend after Lehman shock is very slight.

Figure 2 Stock price of Toyota over five years



Interestingly enough, Toyota's flagging stock price, however, gradually began to rise after Toyota President Akio Toyota attended the US public hearing in February 2010, hitting 3,705 yen on April 14, 2010. Figure 3 below shows that the effects of the recall problem on Toyota's stock price were not overwhelming.

Figure 3 Stock prices for several months



How did the recall problem affect Toyota's profits? The effects on their profits from the recall problem are also relatively small, as well as the effects on stock prices, compared to the impact on their profits caused by the failure of their expansion strategy and the Lehman shock. See Table 1 below.

Table 1: Toyota's financial settlement of accounts (Unit: Million yen)

	March 2006	March 2007	March 2008	March 2009	March 2010
Revenues	21,036,909	23,948,091	26,289,240	20,529,570	18,950,973
Operating profit	1,878,342	2,238,683	2,270,375	-461,011	147,516
Net income	1,372,180	1,644,032	1,717,879	-436,937	209,456

According to Table 2 below, in March 2009, the pattern of steady increases in Toyota's revenues, operating income and net income suddenly reversed. As one cause of their decreased operating profits for FY2009, in their official statement, Toyota reported a loss of 1,480 billion yen due to the effects of the reduced number of vehicles sold and product composition, plus a loss of 760 billion yen due to the influence of exchange rate fluctuations. Most major Japanese critics, however, agree that the fundamental cause of financial loss was because Toyota had failed in its global expansion strategy of achieving sales of 10 million vehicles worldwide.

The number of vehicles sold by Toyota in the US for FY2010 ending in March (estimated) shows a huge increase, jumping by 40% year-on-year. It is seen that effects on sales from the recall problem appear to be reducing. Some critics also suggest that US public opinion against Toyota is settling, and people have re-acknowledged the Toyota brand. Nevertheless, leaving aside short-term performance, the impact of the recall problem on Toyota's long-term financial performance will be more damaging than expected.

So, how will the recall problem affect Toyota's short-term profits? Their budget for fixing the problems identified in the recalls amounts to 100 billion yen for this fiscal year, and Toyota expects decreased sales in Western countries and other locations. According to Takahiko Ichiji, Toyota's Managing Director, he expects a loss of 70 to 80 billion yen due to the effects of the recall. Considering the above, at this point, the direct impact of the recall on Toyota's financial performance for fiscal 2010, ending in March, can be projected to be a loss of around 170 to 180 billion yen. The financial performance from the new Prius hybrid car is not included in the above figure, as the cause of the Prius brake malfunction is still not fully known.

2) Toyota's strategy for improving their social value

The Toyota Myth was seriously damaged by the upheaval caused by the recalls. Although the facts are not yet known, some critics accuse Toyota of not taking appropriate measures despite being aware of the defects and the misleading reports. In the auto industry, a high reputation has a major impact on both premium prices and the prices of second-hand cars. Several experts, including Mr. David Cole, Chairman of the Center for Automotive Research in the US, foresee that the Toyota Quality Myth will be difficult to regain (David Cole, 2010). So, what kind of strategy is Toyota adopting to improve their quality, and to rebuild their formerly high reputation for quality?

Toyota confirmed that it would accelerate its company-wide strategy for quality improvement at the first meeting of their Special Committee for Global Quality, held on March 30, 2010. Steve St. Angelo, Vice President of Toyota's US production arm, a chief officer for Toyota's North American quality control, stressed that Toyota also needs to promote educational activities to make known the proper use of their vehicles. The Toyota President reconfirmed in his speech of April 1, 2010 that customers safety is their first priority, providing good products at affordable prices comes to the second priority, and volume and profit comes to the third. This statement is very significant, since it is based on Toyota's fundamental stance of stressing user safety. More specifically, to reflect customers' views on design in a more assured manner, Toyota has set up a special division within their Technology Department. In addition to the Advisory Board, Toyota has decided to invite outside quality experts to provide evaluations and advice on quality. They plan to disclose

the results of these evaluations to the public.

3) Toyota's strategy to improve their organization value

Toyota's recall problem also revealed problems in their organization. Although Toyota's in-house employees can manufacture high quality products, some critics argue that Toyota's reluctance to outsource was the basis of their competitiveness. The fast pace of their global expansion and increased number of production bases, however, will create more problems than can be coped with by their Japanese employees. Specifically, there is also a view that since around the period when Toyota North America President Jim Press and Toyota Motor Sales USA Vice President Jim Farley moved to other companies, there was a faltering of communication between Toyota headquarters and Toyota North America(Weekly Toyo Keizai, 2010, p.61). How will Toyota cope with these problems?

Toyota stated in its FY2010 global corporate policy, announced on April 1, 2010, that "all of us will be working closely to regain customer trust." This statement is intended to focus the employee's minds, shaken by the recall problem, on the goal of regaining the trust of their customers as soon as possible.

Toyota will embark on a large-scale restructuring of their organization, including their Japanese group companies such as Daihatsu and Hino Motors. At present, each of Toyota's 18 group plants in Japan manufactures several different types of vehicle. By this summer, however, the production of each plant will be divided by type of vehicle, such as into large cars, small cars, and minivans. Toyota aims to create a more convenient environment for conducting and improving quality control by streamlining its production of each type of vehicle. It also intends to create a hybrid version of all its car models. Moreover, by adopting common car bodies and parts for the Corolla, Vitz and other models, Toyota plans to achieve an annual cost reduction of 100 billion yen by 2012.

Furthermore, at the meeting of the Special Committee for Global Quality on March 31, 2010, Toyota decided to set up a more close-knit network for information gathering, by placing seven bases in North America and Europe, as well as six bases in China, to respond to any accident reports immediately by sending out their engineers to the site. Toyota is also expected to plan out a more specific strategy in the future. They will need to put a swift and appropriate strategy in place, that should be conducted steadily and as designed.

Conclusion

The floor mat was the initial focus of Toyota's recall problem, but it developed into a problem of

the gas pedal sticking. The problem then spread further to the malfunction of the Prius brake. The Prius is a hybrid car that incorporates a good deal of new technology, and has experienced many teething problems. Similar types of difficulties can be expected to happen with other automakers' hybrid cars. In brief, Toyota's recall problem revealed a common challenge faced by all automakers.

It became clear to me while writing this paper that, despite many snags, electronic control systems are inevitable in future automobiles. Moreover, a great deal more light has to be shone onto Toyota's recall problem, not to mention the possible drawbacks of electronic control systems in automobiles. It is of utmost importance for Toyota engineers and managers to speak the truth, without being daunted by having to announce more recalls, and that Toyota uses the lessons they have learned in this period of hardship to successfully cope with future problems.

I have also tried to show the existence of at least two types of "facts" related to Toyota's reputation: the engineering facts and the reputation facts. Both exist and interact with each other, and both are real. This situation is a good example of the aphorism that the company may own the product, but the customer owns the reputation.

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