

THE VEHICLE RECALL IN NORTH AMERICA, A TOYOTA CASE STUDY



Toyota house, United states

The following statement was issued by President of Toyota regarding the recalled vehicles.

“ *Toyota has, for the past few years, been expanding its business rapidly. Quite frankly, I fear the pace at which we have grown may have been too quick. I would like to point out here that Toyota's priority has traditionally been the following: First; Safety, Second; Quality, and Third; Volume. These priorities became confused, and we were not able to stop, think, and make improvements as much as we were able to before, and our basic stance to listen to customers' voices to make better products has weakened somewhat. We pursued growth over the speed at which we were able to develop our people and our organization, and we should sincerely be mindful of that. I regret that this has resulted in the safety issues described in the recalls we face today, and I am deeply sorry for any accidents that Toyota drivers have experienced. Especially, I would like to extend my condolences to the members of the Saylor family, for the accident in San Diego. I would like to send my prayers again, and I will do everything in my power to ensure that such a tragedy never happens again.*

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Abstract

Purpose: The purpose of this case study is to specifically outline and highlight the causes of over-speeding in some models of Toyota vehicles which consequently necessitate recent recall in the North America and address the process of resolution adopted by Toyota company to the solve problems.

Design/methodology/approach: An online search of papers, journals and magazines concerning the topic (2009-2011, Toyota recalls). Html files containing the information needed were found and the relevant deductions were made for the write up of the case study.

Findings: The findings identified related to over-speeding included the entrapment of accelerator pedal when the floor mat enters the pedal well at the driver's side, the accelerator pedal becomes harder to depress or slower to return to the closed position, the accelerator pedal may become stuck in partially depressed position and the malfunctioning of the braking system especially in Toyota Prius. The problems were addressed chronologically by Toyota Company.

Originality/value: the case study seeks to address the plight of customers of specific Toyota car models in the North America as well as those in other countries.

Key words: Toyota, pedal, floor mat, accelerator, brake, over-speed, acceleration

Paper type: Case study

INTRODUCTION

Business involves taking some amount of risks in order to create value (products and services). During the value creation process, some unforeseen disruptions could occur. Such disruptions could be a result of technology, human error, or other factors later on identified. The problems if not well-managed could the machinery and services of production. It could bring about an industry crisis. This very often situates the customer on one side, and the business on the other. At this time, it is up to the business to offer tangible explanations and solutions to set the customer's mind at peace. It is also relevant to maintain the company and brand image especially for companies that have existed and built the image through hard work over a long period of time. One such company is Toyota Corporation. Until recent times, especially in 2000, the carmaker has been one of the top most brands in the world, making and exporting cars across the

world. However, it has had to do some crisis management and damage control. This was a result over forty accidents in the United States as a result of unintended acceleration in some of its vehicles. As a leading global company, it would help to examine and study how Toyota managed this crisis. Consequently, technology and management lessons could be drawn for application to local contexts.

THE CASE

Most manufacturing companies have their own advantages and disadvantages. The case of Toyota is not different as it sells its products (cars) and problems occurring during usage by customers. One of the problems that emerged is over-speeding due to brake failure of some Toyota models that compelled Toyota U.S to embark on three prominent recalls. The recalls were as follows:

- November 2, 2009 recall concerned the unstable improper placement of floor mat at front driver's side entering the pedal well to trap the pedals.
- January 21, 2010 recall was about the mechanical sticking of the accelerator pedal causing over-speeding.
- February 2010 recall concerned the hybrid anti-lock brake.

The floor mat recall

Issues leading to recall

According to the National Highways Traffic Administration in USA, the recall was due to the risk that unsecured mats could move forward and trap the gas (accelerator) pedal. This occurred when the floor mats were not secured by either of the two retaining clips. Moreover the break hardware exhibited sign of slow breaking along side with stuck accelerator pedal. The accelerator pedal's hinge could not allow relieving obstructions and the dashboard lacked directions for the three-second emergency press of the push button keyless ignition. However the spring action of the accelerator pedal showed smoothness and unencumbered. The affected Toyota models were Avalon, Camry, Corolla, Highlander, Matrix, Prius, Tacoma, Tundra, Venza, Lexus ES 350, Lexus IS 250/350, Pontiac vibe

Tactical and strategic remedy for floor mat problem

Toyota provided a tactical solution of removing the floor mats which was not a permanent solution for rectifying the floor mat problem. So on November 25, 2009 Toyota amended its floor mat recall involving the same 3.8 million vehicles sold and said it will reconfigure the accelerator pedal, replace the all-weather floor mats with thinner mats, and install a brake override system to prevent over-speeding. According to Toyota, the repair works under the amended recall are as follows:

- The accelerator pedal will be shaved to reduce risk of floor mat entrapment.
- All-weather floor mats will be removed and replaced with a newly designed mat.
- A brake override system, which cuts engine power if both the accelerator and brake are detected as pressed, will be installed.
- A replacement pedal with the same shape as the modified pedal would be made available at a later date.
- For drivers who have existing all-weather floor mat but do not need or want the newly designed all-weather floor mat, the existing mat will be removed and the owner reimbursed.

The accelerator pedal recall

In the US, 2.3 million vehicles were involved in the accelerator pedal problem. The affected Toyota vehicle models were Avalon, Camry, Highlander, Matrix, RAV4, Sequoia and Tundra. This problem was identified and prescribed by the NHTSA. The causes were that:

- The accelerator pedal becomes harder to depress or slower to return to the closed position
- The accelerator pedal may become stuck in partially depressed position

Remedy

The solutions prescribed by Toyota were as follows:

- Should the pedal become stuck while driving, drivers should switch to neutral and stop.

- A repair fix would be applied by the manufacturer to prevent the sticky pedal condition
- A new pedal would later be made available to replace repaired pedals

Moreover, Toyota said that until they have completely addressed the potential causes of sticky accelerator pedal, they would suspend sales for selected vehicles. On January 31, 2010 the Wall Street Journal reported that U.S. regulators cleared Toyota's proposed repair for the pedals and the company would resume production by February 8. On February 1, 2010 Toyota said that its dealers should get parts to fix the sticky accelerator pedal by the end of the week.

Field workaround for sudden unintended acceleration under accelerator pedal recall

Suggested diverse user actions that help to reduce sticky pedals leading to over-speeding serving as temporary fixes comprise the following:

- Putting the car's transmission in neutral during out-of-control acceleration disengages the gears.
- Turning the ignition to the ACC (accessory) position while cutting power to the engine, will also disables the power steering and the brake assist.
- Turning the ignition key to the OFF position, which will also cut power, but may cause lockage of the steering wheels and will also disable the power steering and the brake assist.

Los Angeles Times interviewing a driver testified that 2005 Toyota Camry was unsuccessfully stopped with the brake and emergency brake. However, tests of the Camry by *Car and Driver* in 2009, attempting to use the brakes to stop acceleration of a purposely-stuck throttle at 70, 100, and 120 mph, found that the test driver was able to reduce speed to 10 mph in all instances, and in the 70 and 100 mph tests, stop the car completely. Upon all test Car and driver concluded that the Camry's brakes could overcome the accelerator in all cases even without a brake override, and that stopping distances with a wide-open throttle were largely indiscernible from regular braking. In 2010, Edmunds.com also tested and concluded that Toyota Camry SE V6 the car's brakes could override a stuck accelerator and bring the car to a stop.

Anti-lock brake software recall

On February 3, 2010, the NHTSA announced that it had received reports from 102 drivers of possible problems related to the braking system on the MY 2010 Toyota Prius. The affected Toyota models are Sai, Lexus HS 250. Three of these reports claimed that brake problems had led to the car crashing, with one accident in July 2009 occurring when a Prius crashed head on into another car injuring two people.

Remedy process

Toyota said that it was investigating the reports, and that it would be "premature to comment"

On February 4, 2010, the NHTSA announced it had opened an investigation into the issues with the Prius's brakes, which Toyota said was caused by a software glitch. The company said it was looking into the best way to solve the problem. An internal NHTSA memo indicated that the issue was the "short delay" in regenerative braking when hitting a bump, resulting in increased stopping distance. On February 6, 2010, Toyota said that it had fixed the braking problem on Prius models built since late January 2010 via a software update for the ABS system to improve brake response. On February 8, Toyota announced a voluntary global recall of MY 2010 Prius models produced through late January 2010. The affected vehicles will receive a software update for the brakes and its ABS system.

In February 2010, a U.S federal court in New York began the process of determining if there is probable cause to charge Toyota criminally for the way it has handled the Prius' brake recall, and a civil class action lawsuit has been filed on behalf of 2010 Prius hybrid owners. A total of 133,000 Prius vehicles in the U.S

Investigation by Toyota and its related research agencies

In 2005, 2006 and 2008, Toyota customers again asked the NHTSA to investigate uncontrolled acceleration from electronic throttle controls and power steering issues. Although there were hundreds of complaints, the NHTSA found no evidence of defects; and in every case, Toyota

provided data it said showed no such evidence. On November 2, 2009, the NHTSA denied a petition to reopen previously closed unintended investigations of Toyota vehicles, stating they were unlikely to reach any new conclusions. On February 8, 2011, NASA and the NHTSA announced the findings of a ten-month study concerning the causes of the Toyota malfunctions of 2009. According to their findings, there were no electronic faults in the cars that could have caused the sudden-acceleration problems. "The jury is back, the verdict is in: There is no electronic-based cause for unintended high-speed acceleration in Toyotas, period," Transportation Department Secretary Ray LaHood declared in the LA Times.

The North American congressional view on over-speeding of Toyota model recall

Retired social worker Rhonda Smith testified before Congress that her car accelerated out of control but the NHTSA investigator determined that a misplaced floor mat had caused the problem, the subsequent owner of the car reported no trouble after driving the car over 27,000 miles. In a February 2010 letter to Toyota, US congressional investigators "said a review of consumer complaints produced by Toyota shows that company personnel identified sticking pedals or floor mats as the cause of only 16 percent of the unintended acceleration reports. On February 24, 2010, Toyota responded that it "has rigorously tested its solutions" and are "confident" with the recall repairs, but that it would continue to monitor other possible contributing factors for unintended acceleration, including mechanical, electronics, and driver error.

Aftermath

Toyota stopped manufacturing vehicles on certain production lines for the week of February 1, 2010, to assess and coordinate activities especially those in Princeton, Indiana, Kentucky etc. In addition to recalled vehicles, Toyota announced that it would install brake override systems on all Toyota, Lexus, and Scion vehicles by the end of 2010

Economic impact

The recall came at a difficult time for Toyota, as it was struggling to emerge from the recession and had already suffered from a resultant decrease in sales and the low exchange rate from yen to

US dollar. It was estimated that each Toyota dealership in the US could lose between US\$1.75 million to US\$2 million a month in revenue, a total loss of US\$2.47 billion across the country from the entire incident. Between 25 January and 29 January 2010 Toyota shares fell in value by 15%.

Competitors

Just a day after Toyota's announced sale suspension General Motors began offering a US\$1,000 cash rebate targeted toward Toyota owners. By February 1, 2010 Ford, Chrysler and Hyundai were offering similar incentives.

Release of Toyota driver jailed for fatal crash

In February 2010, a motion for retrial was submitted on behalf of a Minnesota man, Koua Fong Lee, who, in 2008, was sentenced to eight years in jail for rear-ending a car, killing three of the five occupants and injuring the other two. In August 2010, a Minnesota judge freed Koua from prison and the local prosecutor says she would immediately drop the charges

Public image of Toyota

According to a Rasmussen poll released on February 8, 2010, Toyota is viewed favorably by 59% of Americans with 22% viewing Toyota very favorably. A second Rasmussen poll released on February 12 found 23% of Americans believe the federal government is criticizing Toyota to aid General Motors of which it is the majority owner, 38% disagreed, and 39% were unsure.

IMPLICATIONS

Practice

Business leaders should exercise transparency and truthfulness in their dealings with customers. They should practice the "customer first" philosophy they always advocate. Manufacturing companies especially should maintain quality levels at consistent levels. If an intended technology is not thoroughly ready for deployment, it should not be released at the expense of customer safety.

Policy

Companies should ensure at all times that their products and services are meeting their quality specifications. This would ensure maximum satisfaction and value for the customer.

Research

The study infers that notwithstanding the risk and suffering that researchers encounter. They persevere and complete with their findings. However the can be applied to risk management practices using ICT.

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