

GM: THE IGNITION SWITCH FROM HELL

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The case explores events that led to the ignition switch debacle at General Motors. The views presented here are those of the author based on his professional judgment and do not necessarily reflect the views of the Society for Case Research.

Introduction

On September 16, 2015, the Wall Street Journal reported that General Motors Co. (GM) and federal prosecutors had reached a criminal settlement in a case involving GM's handling of an ignition-switch defect that had led to the recall of millions of vehicles and was linked to more than 100 deaths (Spector, Matthews & Barrett, 2015). GM was required to forfeit \$900 million to the federal government for charges of wire fraud and concealing information from the National Highway Traffic Safety Administration (NHTSA) as well as the public regarding safety defects in ignition switches (Appendix 1) that had been designed and manufactured with too-low torque. At the time, 124 deaths were linked to air bag non-deployment during accidents of selected GM vehicles. An estimated 2.6 million cars had been recalled as a result of the ignition-switch problem. The following day in Warren, Michigan, GM's CEO, Mary Barra, informed a town hall meeting of employees of the court settlement. She noted that,

"People were hurt and people died in our cars... We let those customers down in that situation. We didn't do our job. Apologies and accountability won't change much if we don't change our behavior," (Howes, 2015).

Subsequent days saw the beginning of a flurry of activities, including the creation of a compensation program for victims, announcements to settle hundreds of civil lawsuits, and stock market reaction. Using archival data, we explore various decisions that culminated in the ignition-switch debacle.

Background

On September 16, 1908, Buick Motor Company head William Crapo Durant spends \$2,000 to incorporate General Motors in New Jersey. Durant, a high-school dropout, had made his fortune building horse-drawn carriages, and in fact he hated cars – he thought they were noisy, smelly, and dangerous. Nevertheless, the giant company he built would dominate the American auto industry for decades. GM and affiliated companies developed and engineered some of the most

popular automobiles ever made; the Cadillac, Corvette, El Camino, Malibu, and Camaro were just a few of the memorable models that had been sold. GM also provided the space program with the mobility system for the Lunar Roving Vehicle, which enabled Apollo 15 astronauts to accomplish mankind's first vehicular drive on the moon.

Since inception of the modern automobile, there have been some major ethical and engineering lapses in the automobile industry. There were widely documented studies on the Ford Pinto case (Danley, 2005), Toyota recall (Meisenbach & Feldner, 2012), GM's ignition-switch problem, and Volkswagen's emission scandal (Elson, Ferrere & Goossen, 2015). The GM case was unique because it gradually unraveled over a period of almost ten years. Ramifications would continue to be felt in the industry and across the country for years to come. GM had accepted legal responsibility for the ignition-switch problem and made a commitment to take remedial action. There would be fallout within GM and among contractors, the automotive industry, the NHTSA, the stock market, and other entities that had a stake in the industry.

Developing the Ignition Switch

The ignition-switch problem appears to have been set in motion by GM engineer Ray DeGiorgio in 2002, when he approved the manufacture of a new -by GM contractor, Delphi Mechatronics. The new ignition switch had been developed for the Delta Kappa platform vehicles. Even before the ignition switch went into production, other engineers at GM involved in the development process appeared to have knowledge that the switch did not meet required specifications. Though it was known that the ignition switch was far below GM's requirements, DeGiorgio approved its installation in the Saturn Ion (produced MY 2003- MY 2007), Chevrolet Cobalt¹ (produced MY 2005 - June 2010), Chevrolet HHR (produced MY 2006 – MY 2011), and Pontiac G5 (produced MY 2005 – MY 2010). The ignition switch was also installed in certain models of the Saturn Sky (produced MY 2007 – MY 2009) and Pontiac Solstice (produced MY 2006 – MY 2009). Later, it was established that problems related to the switch were known in the GM engineering ranks even during these early stages of production (Valukas, 2014)².

The Ignition Switch from Hell

By 2004 GM engineers had reviewed reports of the ignition-switch failure in which the engine could be shut off while driving, yet decided it was not a safety issue. This shut off would cause the airbags, power brakes, and power steering not to deploy. Apparently, the engineers had not realized the implications of the airbags not working when the engine was switched off (Valukas, 2014). DeGiorgio, the engineer responsible for the ignition-switch design, had labeled it as the 'switch from hell', (Valukas, 2014, p. 48). The issue was attributed to various competing hypotheses, all non-safety related. At this point, the ignition-switch problem was determined to be a low-priority customer convenience issue. This approach to prioritization would have a

¹ In this case, I sometimes refer to any GM platform that installed the faulty ignition switch.

² The Valukas Report, prepared by Anton R. Valukas and Jenner & Block LLP, was commissioned by GM's new CEO Mary Barra and its board to investigate and identify the root cause that led to installing the faulty ignition switch.

knock-on effect on how other decisions were made and resources allocated. Following increased customer complaints, the NHTSA had started investigating engine stalls and resultant recalls.

On May 7, the NHTSA visited GM's Milford Proving Grounds where GM gave a presentation regarding the stalling of their vehicles. The objective was to demonstrate that drivers could still control the vehicle after a failure. Airbag deployment was not discussed in this meeting. In a June 3 meeting regarding engine stalls, the NHTSA advised GM,

"in a case where the number of failures was inordinately high, the factors should be considered but did not necessarily immunize a manufacturer from conducting a safety recall," (Valukas, 214, p. 73).

By 2005, GM investigators were able to easily replicate the problem with the ignition switch turning and causing the vehicle to stall when it should not. However, they determined that the magnitude of the problem did not warrant a recall for safety or customer service reasons (Valukas, 2014, p. 97). Around this time, GM's Product Investigation Group (PI), whose mandate involved identifying and remedying safety issues, got involved with the problem. The PI opened and closed a one-month investigation after determining there was not a safety issue that needed to be fixed. Various other committees proposed fixes, but found each of the options too costly to implement. In the meantime, dealers were advised to tell customers complaining of stalling issues to "remove heavy items from their key rings" and they would be given an insert for the key to reduce the chance that the ignition switch would rotate inadvertently. Customers had also complained of accidentally turning off the ignition with their knees (Isaacs, 2014). None of the committees had reclassified the ignition switch to be a safety issue.

Later, it was established that within GM there had been internal emails warning of a safety problem and that a big recall would be required (Klayman & Beech, 2014). Although Cobalt had become GM's second best-selling car (Valukas, 2014, p. 21), there were increased negative reports related to stalling (Jensen, 2005). The death of a 16-year old Maryland driver, Amber Marie Rose, was the first reported case directly attributed to the defective ignition switch (Basu, 2014). However, GM's Vehicle and Process Integration Review (VAPIR) rejected a proposal to change the switch (Valukas, 2014, p. 92). By the end of 2005, there were numerous lawsuits involving fatalities from Cobalt and Ion vehicles that were related to airbags not deploying (Valukas, 2014, p. 103).

Legal Issues

The beginning of 2006 was tumultuous for GM. GM settled the first litigation after determining that during a fatal accident, the air bag did not deploy when the ignition was in accessory mode. Both internal and external counsel advised that engineers did not have a solid technical explanation (Valukas 2014, p. 104). It should be noted here that GM's legal team had received the first case of air bag non-deployment in 2004. More deaths and litigation followed until GM filed for bankruptcy in 2009. On review, it was found that DeGiorgio, the engineer who approved the production of the faulty ignition switch had misled internal investigators by later changing the faulty switch in the Cobalt without notifying anyone, and without documenting the part change. DeGiorgio later pleaded under oath that he could not remember anything about the change (Valukas, 2014, p. 101). This part change, while resolving the problem in new models,

was misleading for investigators and of no benefit to vehicles on the road that had the original ignition switch. There is no evidence that anyone else at GM was aware of this change.

Far from the center of the crisis, Wisconsin State Trooper Keith Young, had independently solved the puzzle during an accident investigation when he discovered that the airbags did not deploy when the ignition switch turned to the ‘accessory’ position (U.S. House, 2014). The report in part read:

The ignition switch on the [Subject] vehicle appears to have been in the accessory position when it impacted the trees preventing the airbags from deploying. A search of the [NHTSA] web site indicates five complaints of 2005 Chevrolet Cobalt ignition switches turning off while the vehicle was being driven. Three of the complaints talk about the knee or leg touching the ignition or key chain causing the engine to turn off (U.S. House, 2014).

Young’s report was submitted to GM and saved with other electronic legal files. During investigations, a GM employee acknowledged having received the report and submitted it to the NHTSA as normal quarterly reporting (Valukas, 2014). In subsequent congressional hearings, it was discovered that NHTSA had also failed to identify this report (US House, 2014). These developments implied that both GM and the NHTSA had similar and sufficient information to issue a recall at the time. Another independent accident investigation by Indiana University Research Center³ concluded that the ignition switch was “jammed” in the “accessory” mode (U.S. House, 2014). This NHTSA-commissioned report differed with the State Patrol report’s opinion that the key position was the cause of the air bag non-deployment, instead stating it was ‘not known’ if the switch position accounted for the air bags not deploying (NHTSA, 2015, p. 10). Based on the findings, NHTSA decided not to escalate the issue to a formal investigation (NHTSA, 2015, p. 11). The Indiana University report had been prepared and submitted to NHTSA in 2007 and 2008 respectively. However, GM did not find out about the existence of this report until 2012, when it was presented by a plaintiff’s expert.

Financial Crisis

As early as 2000, GM was experiencing intense competitive pressure in the automotive industry and had embarked on a cost-cutting strategy. Appendix 2 shows GM’s key performance indicators and ratio analysis from 2000 to 2009 when it filed for Chapter 11. By 2005, GM was experiencing negative margins, negative returns, and a general state of financial distress. Some GM employees noted that cost-cutting permeated the fabric of the GM culture and cost-cutting and time-cutting principles known as the ‘Big 4’ were emphasized over quality (Valukas, 2014, p. 250). By 2006, GM’s financial performance had continued to worsen, and GM in part, hedged its bets on Cobalt’s performance (Valukas, 2014, p. 21). On December 19, 2008, the Federal Government announced that GM would receive \$13.4 billion from the Troubled Asset Relief Program (TARP). On February 17, 2009, GM and Chrysler requested nearly \$22 billion in additional loans from the U.S. government. During the following month, GM’s Chief Executive, Rick Wagoner, announced his resignation. The following month GM received another \$2 billion in

³ Indiana University Research Center had been contracted by NHTSA to conduct independent investigations on the ignition switch.

government aid. This was followed by a final reorganization plan outside of bankruptcy that involved reducing bond debt, cutting approximately 21,000 more jobs, and emerging as a nationalized automaker under majority control of the U.S. government. On May 22, GM borrowed an additional \$4 billion from the U.S. Treasury, pushing the total government funding to \$19.4 billion. On June 1, GM filed for bankruptcy with the U.S. government pledging another \$30 billion of taxpayer dollars to restructure the company. On July 10, the new GM emerged from Chapter 11 bankruptcy protection, with majority ownership by the U.S. Treasury. The new GM, a separate legal entity, had no legal responsibility over injuries resulting from manufacturing defects prior to July 2009 (Spagnoli, 2014).

Early in 2010, GM issued a power steering recall for MY 2005-2010 Cobalts. However, this recall was not related to the ignition-switch problem (Valukas, 2014, p. 139). This recall was significant because GM had stated earlier that a moving stall at highway speeds was not a safety issue. GM was also starting to emerge from financial problems, along with the rest of the economy. On April 20, GM made a final loan repayment, with the U.S. government continuing to hold 61% stake in common and preferred stock. Later in October, GM received a warning from outside counsel regarding the risk of punitive damages related to the Cobalt airbags (Valukas, 2014, p. 140).

By 2011, there was sufficient concern for the ignition-switch problem that the matter was referred to GM's Product Investigations Unit (PI), headed by Brian Stouffer. Although the PI had access to relevant information regarding the non-deployment of air bags, this information was not deemed to be significant. In addition, the PI did not request, and was not given information on fatalities and injuries (Valukas, 2014).

Issuing the Recall

One of the more common ways for dealing with a manufacturer's defect is to issue a vehicle recall. It was not until April 2012, that results of an accident evaluation pointed to the ignition problem and the failure of airbag deployment. To compound the problem, GM was warned by lawyers about possible punitive damages in West Virginia. On July 25, a newly hired in-house counsel, Nabeel Peracha, asked why GM had not issued a recall. The counsel was informed that the relevant engineering department did not know how to fix the problem and incidences were few (Valukas, 2014, p. 185). Even after receiving the Indiana University report explaining the problem, the PI group discounted the report stating it did not answer all of the questions. On September 4, when a new team, Red X, requested access to a crashed Cobalt, they were informed that the vehicles were quarantined because of the pending lawsuits (Valukas, 2014, 188). Though the severity of the issue was understated, the PI group had started looking for a resolution. When asked to propose new switch requirements and a timeline, DeGiorgio provided a protocol and 18-24 month timeline. DeGiorgio did not disclose to the taskforce that the problem had been fixed (Valukas, 2014, 189).

By 2013, there was an increased sense of urgency. A product liability expert that had been hired by GM took six months to conclude that the ignition switch was inadvertently turning to the accessory mode, disabling the airbags (Valukas, 2014, 193). During the same month, in a deposition, DeGiorgio could not recall that the -had been changed. GM's financial performance

had also improved, allowing the company to repurchase the last of their government-owned stock. In December, GM's Recall Committee, the Executive Field Action Decision Committee comprised of three vice presidents, decided to wait another six weeks to obtain more information before recalling affected vehicles.

Victims

By 2006, GM did not have an engineering explanation for non-deployment of air bags though the issue was attracting the public's attention. Following recommendations from internal and external counsel, GM proceeded to settle claims with victims and their families (Valukas, 113).

Many victims were young drivers; low-priced cars like the Cobalt and Saturn Ion had been marketed to this first-time buyer category. Among the victims, 15 were under 25 years, and 18 were women (Krishner, 2014). In the meantime, law enforcement did not know about the ignition-switch problem, and police files and state highway patrol records had attributed the accidents to alcohol, failure to wear seat belts, and other causes. These had other ramifications to the victims and their families, including intoxication manslaughter, homicide, and bankruptcies (Ruiz, Ivory & Stout, 2014). There was alleged intimidation of victims' families seeking resolution. One family's attorney was quoted saying,

"They sent us a letter in September (2013) telling us to drop our case or else they'd come after us," said William Jordan, the family's lawyer. "They were going to come after me for sanctions, to pay their attorneys' fees," (Modica, 2015).

On June 5, 2014, General Motors announced it would implement a compensation program for those who had lost loved ones or suffered serious physical injuries as the result of an ignition-switch failure (GM, 2014). This was followed by a compensation protocol by the fund's administrator, Kenneth Feinberg (Lasser, 2014). Claims for economic injury or other allegations of damage were not included in the protocol. By the end of 2014, \$594.4 million had been approved for 399 death and injury claims. GM noted that, though not required by law to approve cases that took place before old GM's bankruptcy in June 2009, it had opted to make these payments (Shepardson, 2015). Early in 2016, sixteen lawsuits were initiated against GM at the Manhattan federal court. This was the first set of claims filed in different states, demanding that GM pay for deaths and injuries of victims (Fisk, 2016). A sample of the Bellwether cases is shown in Appendix 3.

Musical Chairs in the C-Suite

During the period of the ignition-switch crisis GM had a total of five CEOs. Richard Wagoner, who became CEO on March 30, 2000, was ousted on March 30, 2009, following pressure from the government as a precondition for financial bailout, GM was asked to change its leadership (Welch, 2009). Wagoner's tenure was eventful, coming at a time when the auto industry was facing intense compensation and legacy problems. This culminated in a deep financial crisis. Fritz Henderson, Wagoner's successor, served for only six months until December 1, 2009. Henderson was ousted when the board decided they needed to push restructuring reforms at a faster pace (Bailey & Kim, 2009). When the new CEO, Edward Whitcare, took over, it was on a

short-term basis and the search for a new CEO started immediately (Valdes-Dapena & Isidore, 2009). Dan Akerson was appointed CEO on September 1, 2010, and immediately set GM through recovery and back to profitability until he stepped down as chairman and CEO on January 15, 2014 (GM, 2014). There is limited information on the involvement or non-involvement of these executives with the ignition-switch problem.

The Board

Most internal findings regarding the ignition-switch problem were discovered following Valukas' Report. This investigation had been requested by GM's CEO Ms. Barra along with the Board of Directors. In the report, concerns were raised regarding the Board's role in safety issues. The report found that over the years, the Board was not informed of any issues related to the ignition switch and only found out in February, 2015 (Valukas, 2014. 233). In June 2015, a Delaware court dismissed a shareholder lawsuit against the Board for failure to perform their oversight role. The Board's ignorance about the problem during the years, even in light of newspaper reports, was disquieting. Jennings and Trautman (2015) offer some context from a former member of GM's Board, Ross Perot,

"If you see a snake, just kill it – don't appoint a committee on snakes. At GM, if you see a snake, the first thing you do is go hire a consultant on snakes. Then you get a committee on snakes, and then you discuss it for a couple of years. The most likely course of action is -- nothing. You figure, the snake hasn't bitten anybody yet, so you just let him crawl around on the factory floor. We need to build an environment where the first guy who sees the snake kills it." (Moore, 1988).

Mary T. Barra

On January 31, 2014, GM ordered recalls for Cobalts (MY 2005 – MY 2007) and Pontiac G5s. At the center of the recall crisis was GM's new CEO, Mary T. Barra, who had been appointed CEO on January 15. Barra, whose father had worked in GM for 39 years (Tankersley, 2011), was a GM veteran in her own right. Having graduated with a Bachelor of Science degree in Electrical Engineering from Kettering University and a MBA from Stanford (GM, 2016), Barra had developed her career at GM. Before becoming CEO on January 15, 2014 (the 5th CEO in six years), she had prior roles as the Executive VP Global Product Development, Purchasing & Supply Chain since 2013 and Senior VP Global Product Development since 2011 (Valukas, 2014). According to court documents, Barra was aware of the recall process because of an issue with the Volt in 2011. However, it is stated that her earlier GM roles would not be involved in decisions pertaining to product recalls (Valukas, 2015).

Regarding the Cobalt ignition issue Barra stated, "It was a very serious situation, and there were questions and issues, so we worked hard to focus on the customer and be transparent, and do the right thing." She acknowledged that GM had uncovered a "pattern of incompetence and neglect" in its failure to recall millions of vehicles with faulty ignition switches (Kennedy, 2015). In the same interview she noted that the internal investigation led by former U.S. attorney Anton Valukas, "revealed no conspiracy to cover up the facts" or any evidence that employees might have made a trade-off between safety and cost issues (Valukas, 2014).

NHTSA

The role of the NHTSA had come into focus. The NHTSA, an agency with the Department of Transportation, was established under the Highway Safety Act of 1970. NHTSA's key responsibility was to,

“reduce deaths, injuries and economic losses resulting from motor vehicle crashes... investigates safety defects in motor vehicles, sets and enforces fuel economy standards, helps states and local communities reduce the threat of drunk drivers, promotes the use of safety belts, child safety seats and air bags, investigates odometer fraud, establishes and enforces vehicle anti-theft regulations and provides consumer information on motor vehicle safety topics” (NHTSA, 2016).

The NHTSA contacted GM as early as 2004 regarding stalling vehicles and faulty air bags (Valukas, 2014, p. 72). Both the NHTSA and GM agreed, at this point, that engine stalling was not, per se, a safety issue. In 2005, following a fatal crash in Maryland (Amber Rose) involving a MY 2005 Cobalt, the NHTSA opened its first crash investigation (NHTSA, 2015, p. 9). However, a contractor assigned to the investigation, Calspan Corporation, could not identify the problem of air bag non-deployment but noted that the vehicle power mode was in accessory (US, 2014, p. 12). Since GM did not make a defect determination, the NHTSA was not notified (NHTSA, 2015, p. 11). By 2007, the NHTSA had identified 43 crashes resulting in 27 injuries and 4 fatalities that were related to the air bag. During the same year, NHTSA officials attended a GM-facilitated training workshop on frontal air bag sensing technology. However, in subsequent congressional testimonies, NHTSA officials could not recall whether or not they attended these sessions (US, 2015, p. 12).

In October 2007, Kansas City Star published a series of articles criticizing the NHTSA's handling of the air bag problems (Casey & Montgomery, 2007; US, 2014, p. 24). However, the NHTSA decided that more evidence was needed prior to opening a formal investigation. Despite additional complaints in 2008, the NHTSA determined that there was no specific evidence available to change its decision. In 2009, there were 15 reported cases of air bag non-deployments (US, 2014, 29). However, the NHTSA only requested for additional information regarding a specific fatal case in Pennsylvania (US, 2014, 29). In subsequent years until 2014, the issue of air bag non-deployment fell off the NHTSA's radar (US, 2014, p. 34).

In February 2014, the NHTSA ordered GM to provide documents related to the ignition switch. In May 2014, the NHTSA announced a settlement with GM, stating GM had:

“...agreed to pay a record \$35 million civil penalty and to take part in unprecedented oversight requirements as a result of findings from NHTSA's timeliness investigation regarding the Chevrolet Cobalt and the automaker's failure to report a safety defect in the vehicle to the federal government in a timely manner.” (NHTSA, 2014)

The NHTSA's conduct during investigations came under specific criticism from the Congressional House Committee on Energy and Commerce. The committee observed that the NHTSA had provided as much documentation, if not more, for work related to the Kansas City Star responses, as it had provided for the Cobalt investigation. The NHTSA was criticized for

failure to keep pace with the technology it regulates, maintaining information silos, having a tunnel vision, and adopting a “NHTSA shrug” (US, 2014, p. 43):

“The NHTSA Shrug: The agency does not hold itself to the same standard of accountability as those it regulates. There is a tendency to deflect blame and point the finger at others rather than accept responsibility and learn from its own failures. It is no different than the GM salute” (US, 2014, p. 43).

Subsequently, the NHTSA did an internal review and proposed recommendations for improvements in its defects investigations (NHTSA, 2015).

Internal and External Legal Counsel

Questions were asked regarding the role of external and internal legal counsel at GM. As early as 2006, both internal and external counsel had signed off on the settlement of a case involving air bag non-deployment. The main justification was a lack of a solid technical explanation (Valukas, 2014, p. 113). The lawyers continued to advise GM to settle subsequent cases. There was criticism of the lawyers’ procrastination, hands-off approach, and inability to understand full ramifications of the ignition-switch problem on public safety (Steinzor, 2015). In a related settlement, GM’s lawyers authorized a \$5 million settlement (the maximum they could authorize without referring it to the chief counsel) involving an air-bag-related fatality (Valukas, 2014, p. 207; Vlasic, 2015). The general counsel, Michael Milliken, did not know about the ignition-switch problem until 2014 (Steinzor, 2015, p. 461). Viscussi (2015) provided context to GM’s legal environment:

“A confidential GM memo...admonished the staff to avoid controversial “judgment words.” The memo explained that documents used for reports and presentations should contain only engineering results, facts, and judgments. These documents should not contain speculations, opinions, vague nondescriptive words, or words with emotional connotations...the examples of forbidden words provided in the memo were seemingly accurate characterizations of potentially recallable cars, including asphyxiating, bad, critical, dangerous, defect, defective, failure, maiming, potentially disfiguring, problem, safety, safety-related, serious, and unstable...GM in effect discouraged frank discussion of product risks.”

Fallout

In the end, 15 employees deemed to be at fault in the Valukas report were fired while 5 others were disciplined (Valukas, 2014, p. 251). A fund was also established to compensate crash victims. When asked if she felt GM has taken care of the people they needed to, Barra replied,

“Again, I think when we look at the extraordinary steps we’ve taken with the recalls that we did last year, the safety changes we’ve put in place and the way we design and engineer our vehicles, I feel that we are a very customer-focused company and, again, on a journey to be a defect-free company” (Valukas, 2014).

In response to the Cobalt ignition problem, Barra stated, "I never want to put this behind us," she continued, "I want to keep this painful experience permanently in our collective memories. I don't want to forget what happened because I -- and I know you -- never want this to happen again" (Valukas, 2014).

Management by Committees

The ignition-switch debacle took almost a decade to unfold. The series of events point, in part, to organizational moral collapse at GM. There were breakdowns in regulations involving failure to adequately support moral values with social controls and enforce compliance. When an organization fails to establish adequate regulation with respect to an espoused morally charged institution, the lack of controls lessens the cost of deviation (Shadnam & Lawrence, 2011). The moral collapse at GM appears to have permeated into other entities. At an operational level, GM interacted with contractors, dealers, external auditors, auto analysts, lawyers, suppliers, and other parties that were directly involved with the faulty ignition switch. It is remarkable that none of these entities raised a red flag for such an extended period of time.

While the criminal case has been settled, the case raises ethical issues within GM at corporate, individual, and professional levels. The case also puts into question GM governance processes and their capacity to mitigate risks.

As early as 2001, it was clear to the contractors and GM's own engineers that the ignition switch did not meet the required specifications. However, one of the engineers may have committed internal fraud by failing to disclose the problem and subsequently switching the ignition part without changing the part number (Valukas, 2014). Over the next decade, multiple individuals and teams within GM appear to have possessed sufficient data points to make a decision. Institutional failure within GM (Valukas, 2014) and at the NHTSA (Steinzor, 2015) has been widely documented. While there may have been bureaucratic and process failures along the way, our focus is on three dimensions of ethical lapses: organizational, individual, and professional ethics. Various reports and interview transcripts have alluded to the less-than-collaborative alliance between GM engineers and its contractors. Even though there was collective knowledge that the switch was below required specifications, it is not known why Delphi, the contractor, agreed to proceed with its production. Whether Delphi was ordered or intimidated to go ahead, Delphi seems to have sufficient grounds to refuse to proceed. Later, GM's engineering focal point, is alleged to have signed his emails with "Ray (tired of the switch from hell) DeGiorgio" (Valukas 2014, p. 48). Numerous other employees seem to have been aware of potential safety problems, but failed to speak up. Internal reports have also shown that GM investigators were neither "diligent nor incisive" in their professional behavior (Steinzor, 2015).

At the organizational level, GM's corporate culture appears to have cultivated a climate of systemic unethical lapses that permeated in different parts of the organization. Even when safety was a concern, the GM bureaucracy seemed oblivious to potential consequences and continued to proceed at glacial speed. Despite GM's code of conduct, upper-level executives were fixated on the cost of solving the ignition-switch problem, without understanding that it was the right thing to do.

GM's own CEO described the "GM nod" as when everyone nods in agreement to a proposed action, but then leaves the room and does little (Valukas, 2014, p. 154). Appendix 4 shows a list of some of the committees' deliberations and their consequent inaction. While the committees started to acknowledge the problem over time, they failed to agree on a meaningful decision due to a culture of preference for cost over quality. The culture of counting beans (Nelson, 2015) may have contributed, in part, to the failure to mitigate the ignition-switch issue before there were human casualties.

Steven Rattner, the TARP bailout czar, described what he found at GM during the financial crisis,

"The cultural deficiencies were equally stunning. At GM's Renaissance Center headquarters, the top brass were sequestered on the uppermost floor, behind locked and guarded glass doors. Executives housed on that floor had elevator cards that allowed them to descend to their private garage without stopping at any of the intervening floors (no mixing with the drones)" (Adamo, & Cendrowski, 2009).

Appendix 1: The New Ignition Switch

Tiny part in ignition switch at issue in crashes

General Motors is recalling about 2.5 million Chevrolet Cobalt, Saturn Ion and similar small vehicles worldwide because a small spring used in an ignition switch attached to the steering column can fail, causing the engine to cut off and air bag systems to be deactivated.

Why this happens

3 • Inside the ignition switch is a plastic settings plate; it has notches along its edge

- Settings control whether ignition is set in the "run" or "accessory" position

- That controls whether engine is running or not

5 • Springs push the plungers into the notches, but the original design had a shorter spring, producing less tension

- The weight of a heavy key ring could push a plunger out of place; ignition setting could change from run to accessory

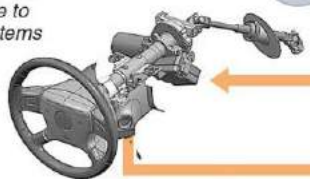
- This would cut off the engine, power brakes and airbag systems

Source: General Motors, McSwain Engineering Inc., Detroit Free Press, International Business Times, National Highway Traffic Safety Association, McClatchy Washington Bureau

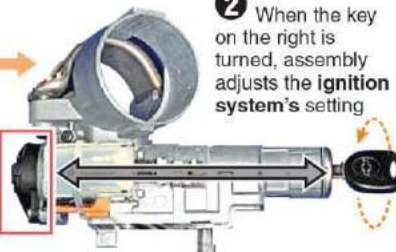
Graphic: Robert Dorrell © 2014 MCT



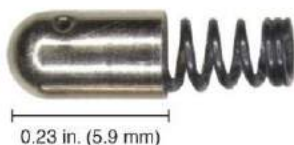
1 The ignition assembly is mounted on the steering column



2 When the key on the right is turned, assembly adjusts the ignition system's setting



4 Small spring-loaded parts called detent plungers snap into the switch plate notches, securing the ignition setting selected by the turn of the key



Original plunger
0.42 in. (10.6 mm)
long, overall

Actual size



Redesigned plunger
0.48 in. (12.2 mm)
long, overall

Actual size

Changing a part without changing its number

- In 2006, GM redesigned the detent plunger but did not identify it under a new part number
- Toyota has admitted to redesigning an accelerator pedal but also choosing not to give it a new number
- Industry experts suggest the automakers may be using this strategy to limit awareness of problems with parts in vehicles already on the road

Source: Viper Law Group: <http://www.viperlaw.com/documents-raise-doubts-about-gms-forthrightness-regarding-ignition-switch-problem/> Accessed March 30, 2016.

Appendix 2: Financial Performance

OLD GM KEY PERFORMANCE DATA

Key Statistics from 2000-2009

Million US \$, except per share items.

Key Financials ¹											
For the Fiscal Period Ending	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	LTM ² Mar-2009A
Currency	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
Total Revenue	176,558	184,632	169,051	177,867	185,837	195,351	193,050	204,467	179,984	148,979	129,027
<i>Growth Over Prior Year</i>	<i>13.6%</i>	<i>4.6%</i>	<i>(8.4%)</i>	<i>5.2%</i>	<i>4.5%</i>	<i>5.1%</i>	<i>(1.2%)</i>	<i>5.9%</i>	<i>(12.0%)</i>	<i>(17.2%)</i>	<i>(28.0%)</i>
Gross Profit	24,599	25,509	16,031	14,850	16,811	31,496	9,219	18,724	13,399	5,504	(729)
<i>Margin %</i>	<i>13.9%</i>	<i>13.8%</i>	<i>9.5%</i>	<i>8.3%</i>	<i>9.0%</i>	<i>16.1%</i>	<i>4.8%</i>	<i>9.2%</i>	<i>7.4%</i>	<i>3.7%</i>	<i>(0.6%)</i>
EBITDA	22,285	21,992	15,878	18,493	20,087	21,404	5,538	15,605	5,930	(4,653)	(8,822)
<i>Margin %</i>	<i>12.6%</i>	<i>11.9%</i>	<i>9.4%</i>	<i>10.4%</i>	<i>10.8%</i>	<i>11.0%</i>	<i>2.9%</i>	<i>7.6%</i>	<i>3.3%</i>	<i>(3.1%)</i>	<i>(6.8%)</i>
EBIT	9,967	8,581	3,166	2,843	4,777	5,527	(9,284)	4,574	(3,112)	(13,484)	(18,288)
<i>Margin %</i>	<i>5.6%</i>	<i>4.6%</i>	<i>1.9%</i>	<i>1.6%</i>	<i>2.6%</i>	<i>2.8%</i>	<i>(4.8%)</i>	<i>2.2%</i>	<i>(1.7%)</i>	<i>(9.1%)</i>	<i>(14.2%)</i>
Earnings from Cont. Ops.	5,576	4,452	1,222	1,813	2,899	2,701	(10,573)	(2,099)	(42,891)	(30,968)	(33,658)
<i>Margin %</i>	<i>3.2%</i>	<i>2.4%</i>	<i>0.7%</i>	<i>1.0%</i>	<i>1.6%</i>	<i>1.4%</i>	<i>(5.5%)</i>	<i>(1.0%)</i>	<i>(23.8%)</i>	<i>(20.8%)</i>	<i>(26.1%)</i>
Net Income	6,002	4,452	601	1,574	3,859	2,701	(10,417)	(1,978)	(38,732)	(30,860)	(33,553)
<i>Margin %</i>	<i>3.4%</i>	<i>2.4%</i>	<i>0.4%</i>	<i>0.9%</i>	<i>2.1%</i>	<i>1.4%</i>	<i>(5.4%)</i>	<i>(1.0%)</i>	<i>(21.5%)</i>	<i>(20.7%)</i>	<i>(26.0%)</i>
Diluted EPS Excl. Extra Items³	5.3	3.3	2.9	3.5	5.1	4.8	(18.8)	(4.3)	(76.5)	(53.3)	(56.9)
<i>Growth Over Prior Year</i>	<i>75.1%</i>	<i>(37.4%)</i>	<i>(13.6%)</i>	<i>21.1%</i>	<i>45.6%</i>	<i>(6.5%)</i>	<i>NM</i>	<i>NM</i>	<i>NM</i>	<i>NM</i>	<i>NM</i>

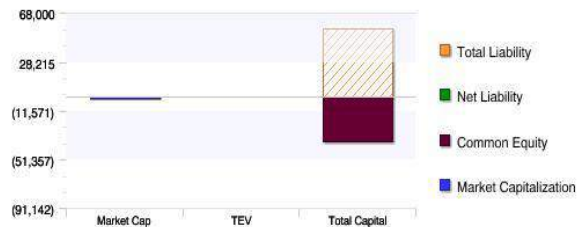
¹All results are taken from the most recently filed statement for each period. When there has been more than one, earlier filings can be viewed on the individual statement pages.

²Growth rates for the LTM period are calculated against the LTM period ending 12 months before.

³All forward period figures are consensus mean estimates provided by the brokers and may not be on a comparable basis as financials.

†Growth rates for forward periods are calculated against prior period estimates or actual pro forma results as disclosed on the Estimates Consensus page.

Latest Capitalization (Millions of USD)	
Currency	USD
Share Price	\$0.04
Shares Out.	500.0
Market Capitalization	21.1
- Cash & Short Term Investments	11,580
+ Total Debt	54,402
+ Pref. Equity	-
+ Total Minority Interest	622
= Total Enterprise Value (TEV)	-
Book Value of Common Equity	(91,142)
+ Pref. Equity	-
+ Total Minority Interest	622
+ Total Debt	54,402
= Total Capital	(36,118)



Note: Striped area represents the impact of negative Common Equity on Total Liability.
Total Liability includes Total Debt, Minority Interest and Pref. Equity.
Net Liability includes Total Liability, net of Cash and Short Term Investments.
TEV includes Market Cap and Net Liability.
Total Capital includes Common Equity and Total Liability.

Valuation Multiples based on Current Capitalization					
		12 months	12 months	LTM	12 months
	12 months	Dec-31-	Dec-31-	12 months	Dec-31-
For the Fiscal Period Ending	Dec-31-	2006A	2007A	Mar-31-	2009E
TEV/Total Revenue	NA	NA	NA	NA	-
TEV/EBITDA	NA	NA	NA	NA	-
TEV/EBIT	NA	NA	NA	NA	-
P/Diluted EPS Before Extra	NM	NM	NM	NM	-
P/BV	NM	NM	NM	NM	-
Price/Tang BV	NM	NM	NM	NM	-

Ratio Analysis

For the Fiscal Period Ending	12 months Dec-31-2000	12 months Dec-31-2001	12 months Dec-31-2002	12 months Dec-31-2003	12 months Dec-31-2004	12 months Dec-31-2005	12 months Dec-31-2006	12 months Dec-31-2007	12 months Dec-31-2008	LTM 12 months Mar-31- 2009
Profitability										
Return on Assets %	1.9%	0.6%	0.5%	0.7%	0.7%	(1.2%)	0.9%	(1.2%)	(7.0%)	(10.0%)
Return on Capital %	3.3%	1.1%	0.9%	1.2%	1.1%	(1.8%)	1.6%	(7.4%)	NM	NM
Return on Equity %	17.1%	4.8%	13.2%	17.7%	10.1%	(48.7%)	(37.4%)	NM	NM	NM
Return on Common Equity %	17.1%	6.4%	14.8%	19.4%	10.3%	(50.6%)	(53.8%)	NM	NM	NM
Margin Analysis										
Gross Margin %	13.8%	9.5%	8.3%	9.0%	16.1%	4.8%	9.2%	7.4%	3.7%	(0.6%)
SG&A Margin %	8.8%	7.4%	6.6%	6.3%	13.3%	6.7%	6.7%	8.0%	9.5%	10.1%
EBITDA Margin %	11.9%	9.4%	10.4%	10.8%	11.0%	2.9%	7.6%	3.3%	(3.1%)	(6.8%)
EBITA Margin %	4.6%	2.5%	3.9%	3.6%	3.7%	(4.2%)	2.8%	(1.7%)	(9.0%)	(14.1%)
EBIT Margin %	4.6%	1.9%	1.6%	2.6%	2.8%	(4.8%)	2.2%	(1.7%)	(9.1%)	(14.2%)
Earnings from Cont. Ops Margin %	2.4%	0.7%	1.0%	1.6%	1.4%	(5.5%)	(1.0%)	(23.8%)	(20.8%)	(26.1%)
Net Income Margin %	2.4%	0.4%	0.9%	2.1%	1.4%	(5.4%)	(1.0%)	(21.5%)	(20.7%)	(26.0%)
Net Income Avail. for Common Margin %	2.4%	1.0%	1.1%	1.7%	1.4%	(5.5%)	(1.2%)	(24.1%)	(20.7%)	(26.0%)
Normalized Net Income Margin %	2.5%	0.9%	0.9%	1.2%	0.8%	(3.2%)	1.1%	(1.8%)	(8.5%)	(11.8%)
Levered Free Cash Flow Margin %	(3.6%)	(35.2%)	(25.6%)	(13.0%)	(5.4%)	(33.3%)	81.4%	3.6%	(3.8%)	(7.0%)
Unlevered Free Cash Flow Margin %	(3.3%)	(35.0%)	(25.5%)	(12.4%)	(4.7%)	(32.5%)	82.2%	4.7%	(2.8%)	(5.7%)
Asset Turnover										
Total Asset Turnover	0.6x	0.5x	0.5x	0.5x	0.4x	0.4x	0.6x	1.1x	1.2x	1.1x
Fixed Asset Turnover	4.9x	4.3x	4.8x	5.3x	5.3x	5.1x	5.1x	4.2x	3.6x	3.2x
Accounts Receivable Turnover	29.4x	25.5x	29.6x	30.8x	27.0x	25.1x	24.1x	19.9x	17.0x	14.5x
Inventory Turnover	12.8x	12.4x	14.0x	13.9x	13.3x	12.0x	11.3x	11.4x	10.2x	9.0x
Short Term Liquidity										
Current Ratio	1.0x	1.4x	1.7x	1.8x	1.8x	2.5x	1.0x	0.9x	0.6x	0.5x
Quick Ratio	0.8x	1.1x	1.3x	1.5x	1.5x	1.9x	0.5x	0.5x	0.3x	0.2x
Cash from Ops. to Curr. Liab.	0.2x	0.1x	0.1x	NM	0.1x	NM	NM	0.1x	NM	NM
Avg. Days Sales Out.	12.4	14.3	12.3	11.8	13.5	14.5	15.1	18.4	21.5	25.1
Avg. Days Inventory Out.	28.7	29.4	26.1	26.3	27.4	30.5	32.4	32.0	36.0	40.5
Avg. Days Payable Out.	47.2	51.7	47.9	49.8	55.1	59.6	62.1	62.2	67.4	71.2
Avg. Cash Conversion Cycle	(6.0)	(8.0)	(9.5)	(11.6)	(14.1)	(14.5)	(14.6)	(11.8)	(9.9)	(5.5)

Long Term Solvency										
Total Debt/Equity	468.9%	813.2%	2,822.0%	1,062.6%	1,081.8%	1,832.6%	NM	NM	NM	NM
Total Debt/Capital	82.4%	89.0%	96.6%	91.4%	91.5%	94.8%	110.2%	500.5%	NM	NM
LT Debt/Equity	213.2%	511.6%	1,908.1%	747.3%	746.4%	1,561.3%	NM	NM	NM	NM
LT Debt/Capital	37.5%	56.0%	65.3%	64.3%	63.2%	80.8%	97.2%	432.1%	NM	NM
Total Liabilities/Total Assets	89.7%	93.7%	98.1%	94.3%	94.2%	96.7%	102.4%	123.8%	193.7%	210.0%
EBIT / Interest Exp.	10.5x	5.5x	5.9x	2.7x	2.4x	NM	1.7x	NM	NM	NM
EBITDA / Interest Exp.	27.0x	27.8x	38.6x	11.3x	9.4x	2.2x	5.9x	2.0x	NM	NM
(EBITDA-CAPEX) / Interest Exp.	NM	NM	NM	1.1x	NM	NM	NM	NM	NM	NM
Total Debt/EBITDA	6.6x	10.5x	10.8x	13.5x	14.0x	52.0x	3.1x	7.5x	NM	NM
Net Debt/EBITDA	6.1x	9.9x	10.0x	12.4x	13.1x	49.0x	1.6x	3.0x	NM	NM
Total Debt/(EBITDA-CAPEX)	NM	NM	NM	138.4x	NM	NM	NM	NM	NM	NM
Net Debt/(EBITDA-CAPEX)	NM	NM	NM	126.4x	NM	NM	NM	NM	NM	NM
Altman Z Score	0.93	0.94	0.97	0.91	0.84	0.82	1.22	0.77	(0.34)	(1.09)

Source: *S & P Capital IQ*:

<https://www.capitaliq.com/CIQDotNet/Financial/Ratios.aspx?companyId=177126&statekey=d241dc205c5f402faf081148b0db247b>.

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Appendix 3: Bellwether Cases

GM on Trial: When, Where and Why

America's biggest automaker faces hundreds of lawsuits over faulty ignition switches that plaintiffs blame for injuries and deaths. Trials in 2016 will be crucial in shaping any settlements.

■ Death • Federal court

	Trial Date	Court	Claim	
Father of Five Dies in a Saturn Plaintiff: Family of James Yingling III Yingling, 35, crashed into a bank in Western Pennsylvania when the engine of the Saturn Ion he was driving allegedly shut down as he was making a turn. The air bags didn't deploy in the November 2013 crash. Yingling, a father of five, died 17 days after the accident.	January 11	• Manhattan	Injury	Driver Faced Manslaughter Charge Plaintiff: Zachary Stevens Stevens's Saturn Sky crashed into a pickup truck in November 2011, killing the other driver and leaving Stevens with memory loss. A manslaughter charge against him was dropped after the accident was connected to an ignition switch failure.
	March 14	• Manhattan	Injuries	
	May 2	• Manhattan	Death	
	July 25	Kentucky	Injury	
	July 25	• Manhattan	Injury	
	August 3	Mississippi	Injury, death	
	August 3	Texas	Injury	
Lost Control of Her Impala Plaintiff: Angelina Biggs Biggs lost control of her Chevrolet Impala and rear-ended another vehicle in West Virginia. She sustained neck and lower back injuries in the January 2014 accident.	September 12	• Manhattan	Injury	Ran Off the Road, Lost an Eye Plaintiffs: Josh Cull and Samantha Zollman Cull lost control of a Chevy Cobalt in Indiana in October 2012 when the ignition switch allegedly failed. He and passenger Zollman were injured when the Cobalt ran off the road. Cull lost an eye; Zollman required facial reconstruction surgery.
	September 19	California	Injury	
	September 19	Texas	Death	
	September 19	West Virginia	Injury	
	October 24	Georgia	Death	
	November 8	Indiana	Injuries	
	November 14	• Manhattan	Injury	
	November 15	California	Injury	
	Awaiting date	Pennsylvania	Injury	

Source: Court filings and interviews with lawyers

Bloomberg

Source: Fisk, C. (2016). GM Ignition Nightmare Won't Go Away, for Victims or Company. *Bloomberg*, January 8, 2016. <http://www.bloomberg.com/news/articles/2016-01-08/gm-ignition-nightmare-won-t-go-away-for-victims-or-company>. Accessed March 30, 2016.

Appendix 4: Committee Inactions

Chronology of Committee Actions

2003: Field Performance Report on intermittent stalls opened and then closed without action on the basis that another report existed.

2004: High Performance Vehicle Operations Group identifies moving stalls in the Cobalt.

2004: Current Production Improvement Team designates the problem as non-safety related.

2005: Product Investigations Group opens and then closes investigation.

2005: Vehicle Production Investigation Review, a cross-sectional team of system engineers, recommends a higher mount of the ignition switch after realizing the ignition-switch problem would be too expensive to fix.

2005: GM Product Investigations continues to assess engine stall issues.

2005: GM Brand Quality Group learns of moving stalls, but fails to identify problem.

2007: Wisconsin State Trooper, Keith Young and Indiana University researchers independently identify the non-deployment of airbags when ignition switch moves from “run” to “accessory.”

2007: Field Performance Assessment team looks at the ignition-switch problem.

2013: Executive Field Action Decision Committee refuses to authorize recalls on the basis of insufficient information. EFADC discovers old Problem Resolution and Tracking System (PRTS) reports dating to 2004 and starts issuing recalls for a variety of vehicles.

2014: Service parts recall issued.

Questions

1. What are the main ethical issues in the case?
2. Who is responsible for each of the ethical issues you have described? Why?
3. Who were the silent bystanders and what should they have done differently?
4. Is government regulation a sufficient mechanism for ensuring consumer safety? If not, what else is required?
5. Describe the short term, medium term, and long term costs of the ethical lapses at GM.
6. Describe the strategic steps that GM's CEO, Mary Barra, should take in restoring GM's performance, image and reputation as the No. 1 automaker.

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