A Risk-Based Approach for Mitigating Ethical Lapses

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Abstract

Abstract: In early 2008, the CEO of Volkswagen announced a 10-year plan that called for tripling the company's U.S. sales by 2018. The executive gave marching orders to engineers to come up with a new technology that would enable VW to lower emissions of the new cars. The engineers failed to come up with a device that could do the job. Instead they deployed a defeating software would defeat the testing process. The 2009 VW Jetta clean diesel was launched in April 2008 and followed by the introduction of similarly equipped VW Golfs and Audi A3s. Over 145,000 vehicles were sold in the U.S. in three years. The scheme was eventually exposed, costing the company millions of dollars. This paper describes the organizational reasons why the emissions cheating occurred. It also provides recommendations regarding how organizations could prevent similar behaviors from occurring in future.

Key Words: Volkswagen, risk-based approach, ethical lapses, ethical traps, emissions cheating

Introduction

In 2015, the executives of Volkswagen (VW) admitted that the company had fitted a cheating software on diesel car models that were sold in the U.S. The software manipulated the operations of the engine during lab emissions test and caused the car to pass test. The engine's nitrogen oxide (NOx) emissions was up to forty times above the allowed limit. A recall was issued, which ultimately affected 8.5 million cars, including 2.4 million in Germany, 1.2 million in the U.K., and round 500,000 cars in the U.S. Evidence showed that many VW employees knew about the cheat software, but they kept silent about it.

There were few factors that made this case significant. First, VW had a welldeveloped code of ethics at the time the fiasco occurred. Second, VW had a comprehensive Risk Management System and Internal Control System (RMS/ ICS). Volkswagen's RMS/ICS system was based on the internationally recognized COSO Enterprise Risk Management Framework standard (Volkswagen, 2013). Given that VW adopted these systems, there is grounds to wonder why could the ethical lapse have occurred?

However, this is not the only case that justifies the need for an inquiry. In 2014, General Motors (GM) issued a recall of its small cars which had faulty ignition switches. The component could shut off the engine during driving and thereby prevent the activation of airbags. That recall affected nearly 30 million cars worldwide and caused over 100 deaths. Evidence also showed that GM employees knew about the fault for at least a decade and took no action about it (BBC, 2015; Shepardson, 2015). Similarly, GM also had an ethical code and a compliance management system implemented during the faulty ignition switches fiasco.

These facts lead to two conclusions. First, the implementation of compliance management systems does not necessarily eliminate ethical lapses in organizations. Second, the facts also suggest that a common explanation for the failure of compliance management systems, which is the notion of ethical blindness, does not explain the ethical lapses in these cases. The concept of ethical blindness posits that actors unknowingly act unethically, because they are temporarily "ethically blind". The argument claims that compliance systems fail because rational people using such systems are unable to see the ethical consequences of their actions (Kump and Scholz, 2016; Palazzo, Krings, and Hoffrage, 2012). In the cases of GM and VW, given that the employees hid their actions, one can deduce that they were indeed aware of the ethical consequences of the actions. So, the concept of ethical blindness does not offer a plausible explanation for their actions.

In contrast, we argue that many unethical choices happen because people fall into unscrupulous thinking traps. For example, people fall into the trap of thinking that their unethical choice in merely an "exception to the rule" that is "unavoidable." Also, there is the trap of thinking that "we can get away with" something we are intending to do. In the paragraphs below, we will use the case of the Volkswagen emissions fiasco to describe six thinking traps and how to avoid them.

Volkswagen Fiasco – In Brief

Consider the Volkswagen (VW) emissions fiasco. In 2005, Volkswagen had nearly 19% market share in Western Europe but only 2% in the United States. The Chief Executive Officer of VW determined that if the company could combine performance, modest price, and environmental appeal, it could become the largest automaker in the world. The strategy was formalized by the then-CEO Bernd Pischetsrieder and continued by his successor, Martin Winterkorn. In early 2008, Winterkorn announced a 10year plan that called for tripling the company's U.S. sales by 2018. Meeting this goal would enable VW to surpass General Motors (GM) and Toyota (TM) to become the world's largest automaker.

Clean diesel was a central piece of the strategy; however, there was a major hurdle. The California Air Resources Board (CARB), acting on its delegated powers under the Federal Clean Air Act, had enacted strict nitrogen oxide (NOx) emission restrictions. In 2009, the CARB announced even stricter rules. The new rules limited maximum emissions of NOx to 44 milligrams per kilometer. This was about one-fourth of the 180 mg/km that was allowed under the Euro 5 standard.

Under two CEOs, Pischetsrieder and his successor Winterkorn, two teams of engineers were assigned the task of building a diesel passenger car for the U.S. market. The two teams, located in different cities, embarked on the project simultaneously. One group designed 2.0-liter engines for both VW and Audi cars. The second group developed 3.0-liter engines for SUVs and luxury vehicles for both brands. The difficult challenge that neither team could solve was how to meet the U.S. CARB emission standards. Their engineering problem was to design an engine that could satisfy America's stringent NOx regulations without sacrificing performance, fuel economy, and the competitive sticker price target.

The initial solution that was explored was to re-use an existing technology. Diesel trucks had used a costly method, known as selective catalytic reduction (SCR), to convert NOx into nitrogen, carbon dioxide (CO2), and water. DaimlerChrysler, VW's rival, had perfected the component and used it in its own clean diesel cars. VW licensed the technology from Daimler-Chrysler but shelved it. Instead, the executives decided that the engineers should design a new VW component to lower car emissions. The CEO charged the engineers to come up with a solution that would be equal to or better than Daimler-Chrysler's SCR. The engineers accepted the challenge. It was a high-stakes situation. If the engineers succeeded, they would be heralded as "stars" within the company. However, if they failed, their failure might cause the whole organization to collapse.

The engineers were under intense pressure. They designed a new component that was called the lean NOx trap. Unfortunately, they could not get it to satisfy the NOx requirement, at least not without unacceptable impacts on fuel economy or drivability. However, the teams deemed it unacceptable to admit that anything was impossible. Rather than telling the executives that they could not meet the emission standard, they decided to manipulate the results of the emission test.

The teams were aware of a cheating software that had been developed for the Audi in 1999. The software was also installed in diesel V6 SUVs in Europe from 2004 to 2006. To meet their deadlines, the engineers decided to adapt the cheating software for the new diesel engines they were designing. The technique was simple: The software was programmed to detect when a test was being done in the lab versus when a driver was driving on the road. During a lab test, the engine performance was changed to lower emissions. When the vehicle was being driven on the road, the software noticed the change and stopped its suppression of engine performance. This deactivation caused the NOx emissions to go back to its actual level, which was up to forty times higher than the legal limit.

Moreover, the engineers felt confident that the defeating software would go unnoticed because the existing technologies lacked the capability to detect it. In spring 2008, VW announced the new engine with its lean NOx trap. This engine was marketed as the next-generation turbo diesel engine for the North American market. The central selling point of the car was that it featured a clean, high-performance diesel engine.

The 2009 VW Jetta clean diesel was launched in April 2008 and followed by the introduction of similarly equipped VW Golfs and Audi A3s. Over 145,000 vehicles were sold in the U.S. in three years. In July 2008, a member of Audi's environmental certification team learned about the test-defeating software. He wrote to the engineering team stating that the software was "indefensible." Nevertheless, the U.S. introduction went forward anyway. All the while, senior executives claimed that they were unaware of the emissions test-defeating software. Three years later, a research center in the U.S. discovered the software cheating scheme. We find that some specific thinking patterns, also called thinking traps, that one observes in the VW case, provide some foundation for explaining why the employees acted opportunistically. After we present these thinking patterns, we will propose a risk-based approach as a means for creating an organizational culture, where employees are less vulnerable to the thinking traps.

Why Do Ethical Lapses Occur?

NO GOAL IS IMPOSSIBLE TRAP. It is true that great accomplishments have been achieved in life in part because the actors set high expectations. Yet, should one embrace this as a universal maxim of life regardless of the plan, resources, and results? If a group is running out of resources, is reusing the same plan, and is accomplishing worse results, an unrealistic goal becomes a trap rather than a winning strategy. There is research-based evidence that shows that unrealistic performance targets create ethical conflicts for employees. Employees are either forced to lie or to cut corners (Carucci, 2016). In the case of VW, the executives likely set an unrealistic performance target. They wanted to defeat the number one and two auto companies in the U.S. and ultimately become the number one car maker in the world. The executives also wanted to engineer a new technology for reducing NOx emissions. The more unrealistic a performance target is, the higher the risk of failure, and the pressure felt by employees. What makes unrealistic targets counterproductive is that they set people up to fail. Rather, executives need to set high targets and realistic goals. This trap set the stage for the decisions that the VW engineering teams made.

FAILURE-IS-NOT-AN-OPTION TRAP. The VW executives also exhibited a "failure is not an option" mindset. This is deduced from specific actions that they took and the actions that they did not take. First, as far as we know, they did not set a contingency plan. Second, they eliminated the use of the licensed SCR component, which would have been a workable backup to use in place of their lean NOx trap. They also assigned the task to two different engineering teams, signaling the importance of the project succeeding. On one hand, this assignment of the special task to these two teams showed the degree of trust that the executives had in them. On the other hand, that trust changed the context for the engineers. They were no longer working on a solution for the NOx emissions problem; rather, they also had to prove that the trust that was extended to them was merited. The reputation of each group was on the line. It is no wonder then that the engineers embraced the "failure is not an option" mentality too. The executives, knowingly or unknowingly, created an organizational context which fostered the "failure is not an option" mentality.

THE END JUSTIFIES THE MEANS TRAP. Whenever there is a goal that requires difficult tradeoffs, such as the engineers faced, success could be defined in at least three ways. The engineers could meet the NOx requirement, they could admit defeat, or they could defeat the test. They decided to defeat the test. The option that they chose reveals that they succumbed to the "end justifies the means" trap. In a sense, their choice could be rationalized as being an "exception to the rule" and an "unavoidable choice." The attractiveness of the "end justifies the means" trap tends to be stronger when the stakes are high and when the actors are very close to a desired objective. In the case of VW, the engineers worked hard to produce the lean NOx trap. They were so close to the finishing line of their project. The only problem was that the engine was failing the test. This created the incentive for the engineers to seek a way to defeat the test.

THE CONSENSUS GRANTS LEGITIMACY TRAP. The case summary shows that the decision to select the emissions test-defeating software was a consensus decision among the engineers in each team. Consensus is ordinarily interpreted as a means of providing legitimacy to a choice; however, there are limits to such a notion. For consensus to be a valid method for legitimizing choices, the agents making the decisions should be non-biased or independent. Given that the engineers who were making the decisions were under pressure and invested in the success of the venture, their consensus was likely tainted by their biases. The condition of being invested in the outcome likely biased the consensus of the engineers, making them favor a quick-fix remedy rather than encouraging them to objectively see the software as a moral violation.

THE UNDETECTABLE SCHEME TRAP. One of the observable lessons of the case was that the engineers falsely believed that the emissions test-defeating software was going to be undetectable. They came to this conclusion because they did not find any testing machine that was equipped with the capability to detect cheating software. Unfortunately for them, the Achilles' heel of every "undetectable deed" is that things change. Sooner or later, a method, process, or action will be introduced which will detect "undetectable deeds."

THE YOU'RE BETTER OFF SAYING NOTHING TRAP. The VW case also highlights the dangers of collective silence in an organization and how it impacts unethical choices. In the VW case, neither of the two teams that installed the emissions test-defeating software notified the executives about it. Similarly, when Audi's environmental group got the information about the software, they protested to the engineering group that it was indefensible, but there is little evidence that any Audi employee reported the issue to the executives. There was a collective employee silence (non-report of critical information to executives) which caused the unethical behavior to persist longer than it otherwise might have. Collective silence is usually an intentional choice that is embraced to protect an employee's or a team's self-interest. If employees believe that what they say can be used against them, they will be vulnerable to the you're better off saying nothing trap. For example, employees are less likely to report unethical behavior if they perceive that it is not in their interest to do so. It was not in the interest of the engineers to report their own unethical behavior to the manag-

Employee silence might occur because of a structural Conflict of Interest (COI) between employees and their employers. Monzanni et al. (2018) argued that workers faced a dilemma in choosing between the short-term interests of their leader, who might perceive voicing problems as being disloyal, and the long-term interests of the organization. This COI may have contributed to the reasons why employees within VW manifested collective silence when they heard about the emissions test-defeating software.

Making Ethical Lapses Less Likely in Organizations

Risk-based ethics approach. Unfortunately, in most organizations, ethics programs are designed to create ethical awareness rather than to mitigate ethical violations. Why? Because many ethics programs do not treat ethical violations as an ongoing threat. Rather, too many ethics programs adopt a compliancebased approach. Specifically, organizations create a code of ethics, they train their workers about ethical norms and the values of the organization and hope that everyone follows the training. A more proactive approach for an ethics program would treat ethical violations as an ongoing threat. In this type of ethics program, a risk-based approach would be needed to manage ethical violations.

The focus on managing ethical violations that we propose is akin to how firms achieve better quality. To achieve better quality performance, a firm must implement an ongoing system for lowering the occurrence of defects. Similarly, to have an ethical culture, a program must be implemented that includes interventions to avoid the occurrence of ethical violations. We call this a risk-based approach for managing ethical violations. The phases of the risk-based approach that we present here were derived from established risk-based frameworks, such as those that have been successfully used in the field of cybersecurity (NIST, 2018). The risk-based approach for managing ethical violations has four phases. Namely, prepare, prevent, respond, and restore. This means that a risk-based approach requires the investment of resources in four phases. In contrast, in firms that adopt compliance-based ethics programs, most of the resources are invested in the prepare phase. Hence, if an ethical violation occurs in a compliance-based context, the damage is likely to be high and the cost to recover could be significant. In contrast, the adoption of a risk-based approach encourages both early detection and early intervention actions to mitigate ethical threats before they have time to spread and cause more significant damage. In the following sections, the paper will describe each phase of our risk-based framework and its related activities.

Prepare: The purpose of this phase is to deploy ethical components and structures that are intended to limit or mitigate the threats that are posed by ethical thinking traps. Relevant components in this phase include the creation of an ethical code and the institution of governance structures for managing ethics in an organization. This phase would also include requirements for ethics awareness training for staff and ethical decision-making training for managers. An organization would also institute ethics compliance controls, such as conflict of interest declarations, background checks, certificate verification, procedural audits, enforcement audits, and work experience verification. It would also be relevant to design and adopt tools for information gathering and reporting, such as reporting protocols, ethics surveys, and performance reviews and evaluations.

A key component that should be considered in this phase is the integration of ethical transparency and feedback mechanisms across the structure of the organization. For example, peer-review norms could be instituted whereby the resolution of ethical issues includes blind or non-blind feedback from independent peers.

Prevent: The central purpose of the activities that are deployed in this phase is to enable early discoveries and early interventions that would mitigate ethical violations. A key focus of this phase is the deployment of safeguards. An analogy for this phase is the circuit-breaker. A circuit-breaker is an ongoing preventive mechanism that stops equipment from being destroyed by unpredictable surges of electric voltage. In the same sense, every organization adopting a risk-based approach to ethics should carefully implement multilayered preventive controls that mitigate ethical violations in an ongoing manner.

For example, there should be controls that would enable an organization to discover either gaps in the existing ethical standards, practices, and controls, or to identify emerging ethical violation opportunities that require new procedures or policies. Such discovery and intervention activities would enable organizations to act before ethical threats fester into bigger ethical challenges. In this phase, the governing structures should incentivize employees to report unrealistic performance targets or goals to executives. Peer-review teams should be actively engaged in evaluation and give feedback about major "exceptions to the rule" decisions that were made in departments. Team leaders would be expected to include in progress reports information about ethical peer-reviews, emerging flaws and surprises in plans, resourcing constraints, and project tradeoffs. The reporting of tradeoffs that might have ethical implications and risks would be essential. Also, the prevent phase will be fruitful if the executives create a context in which all employees have a way to discuss and report perceived gaps, conflicts, and lack of clarity in organizational policies, rewards, bonuses, standards, and practices. Finally, an organization would also monitor the effectiveness of its mechanisms and incentives by documenting if they are making it more likely that employees see it as being in their interest to report ethical concerns rather than to be silent.

Respond: The purpose of the activities in this phase is twofold. First, to act on the feedback, concerns, and gaps that were identified in the prevent phase. Second, the respond phase is about acting to resolve ethical violations that have become known. The respond phase would be effective if the action is timely, and if the investigations and processing are transparent and fair to all parties. Processes that protect the interests of all parties are likely to come to better resolutions. After a major ethical violation, the respond phase would include timely notification of affected persons as well as the institution of damage mitigation actions. Similarly, the respond phase would include dissemination of information and interaction with concerned staff, customers, and other stakeholders. This means that the provision of accurate information across different communication channels would be necessary. The adoption of activities that may contribute to a positive response experience could include the deployment of guidelines and standards for the review of ethical cases. Also, the deployment of a transparent process for evaluating and punishing ethical violations would be useful. It would also be critical to offer an appeal's process to employees and managers, and procedures for protecting the identity of whistle-blowers, the accused, and those who offer testimonies.

Restore: The purpose of this phase is to implement corrections based on the lessons learned from the prevention and response stages. In some cases, the restoration phase might involve the payment of compensation and damages. It might also involve employee reassignment and/or promotion. In regard to policy changes, there might be requirements for the justification and formal acceptance of new policies. The restoration phase would require different levels of information sharing, such as to individuals and groups within the organization, to customers, and to the public. The restore phase has the goal of restoring the confidence of stakeholders in the integrity of a company, and to restore credibility to an organization's claim that it is committed to high ethical standards.

Applying the Risk-Based Approach to the VW Case

If some elements of the prepare stage had been applied at VW, the executives would have had training in ethical decision-making and learned how unrealistic expectations foster unethical behavior among employees. Also, had the firm instituted feedback mechanisms across the structure of the organization, such as blind or non-blind peer-review feedback, teams of executives would have had the opportunity to discuss the contingency plans to the strategic plan. If one or two contingency plans had been created, the strategic plan would have had three ways to succeed rather than one. If there had been three ways to succeed, both the leaders and the followers would have avoided the "failure is not an option" trap. The team would likely have avoided the "end justifies the means" trap too. If a team were close to a single goal and there was no other way to win, they might cheat. However, if a team were close to a single goal, but there were other ways to win, they would be less likely to cheat. In the case of VW, the intermediary solution could have been to use the SCR.

If VW had integrated ethical transparency mechanisms across its teams, it could have created procedures whereby members of one engineering group are assigned the task of auditing the work of the other one. Also, it would have assigned the staff of VW's environmental group to function as an external agent conducting the emission tests. This would have created a situation in which several traps would have been less attractive. The engineering teams would have avoided the consensus grants legitimacy and the undetectable scheme traps. Given that there would be the possibility of overlapping internal audits, the likelihood would be lower that most of the engineers would think that the scheme could escape detection.

Lastly, if VW created a speak-up culture by implementing some of the components of the prevent phase, the leaders would have learned of the ethical violations sooner. For example, Elizabeth Morrison's book Encouraging a Speak Up Culture identifies two barriers that firms must overcome. Namely, the natural fear of speaking up and the concern that to speak up is futile. To combat these barriers, executives could integrate ethical reporting with progress reports. Progress reports could include information about goals as well as information about ethical concerns, emerging flaws, resourcing constraints, and project tradeoffs.

Organizations that are known for their focus on ethical business practices have elements that show that they are adopting what this paper calls a risk-based approach to ethics. For example, 3M's ethics policy mandates reporting concerns and suspected violations of the law and the company's code of ethics. The following is 3M's (2019) policy of reporting:

"Unless prohibited by local country law, 3M employees must promptly report all suspected violations of the law or 3M's Code of Conduct by bringing their concerns to the attention of 3M management, 3M legal counsel, 3M's Ethics & Compliance Department, assigned Human Resources manager, or through 3M-Ethics.com. Supervisors and managers must promptly report all suspected violations of the law and 3M's Code of Conduct to their business unit's assigned legal counsel, the Ethics & Compliance Department, or their management. 3M does not tolerate retaliation for reporting violations or suspected violations of the law, or of 3M's Code of Conduct."

Adobe maintains an ongoing blog that documents the ideal company culture, why it matters, and highlights Adobe employees who are examples of what is expected (House, 2018). McLaverty and McKee (2016) suggest that managers build and use a strong and diverse personal network when making ethical decisions. This will help avoid some of the traps into which VW employees fell. Also, the authors recommend that executives investigate the ethical signals that their decisions are sending. Who gets hired and who gets promoted send a signal about what a company really values. Heinig (2018) recommends that companies should emphasize ethics in hiring, retention, rewards, recognitions, and promotions.

Sony (2018) also exemplifies how preventive mechanisms could be deployed to mitigate a "culture of silence." It has multiple channels for reporting ethical concerns, and it provides training to managers on how to create an environment where employees feel comfortable speaking up when they observe unethical behavior. It also trains its managers on how to handle reports and how to prevent retaliation. Kaulflin (2017) also noted there is evidence that the leading ethical companies in the U.S. are increasingly providing data to their employees about their responses to ethical issues. For example, more of these firms are disclosing information to their employees about misconduct in their own company, including how many complaints were filed and what was done about the complaints. Previously, in most firms such information was kept confidential. By adopting a risk-based approach, firms can be more proactive about creating organizational cultures which prevent and mitigate ethical violations rather than merely reacting to them.

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