

Evaluating Firm Decisions Within the Scope Of Rational Choice Theory: Volkswagen Case

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Abstract

People must satisfy their needs in order to survive. On the other side, people also have wants that are nonessential but if they are met, they make people satisfied. Therefore people must make rational decisions in the matter of meeting the unlimited wants and needs by scarce sources. In other words, the use of scarce resources with maximum efficiency is in question. The term of “homo economicus” is defined as a person who attempts to maximize his benefit by scarce sources in the classical economic approach and it’s assumed that “homo economicus” always make rational decisions. Rational Choice Theory is based on the profit and loss concepts which are one of the basic phenomenons of economics. According to the theory, decision makers should take profit and loss that they will get by their decisions into account before coming to a conclusion. The study examines the decisions of Volkswagen - the largest car manufacturer company- about manipulating the results of the diesel engines’ emission tests regarding to the framework of the Rational Decision Theory. Secondary data sources are used to conduct the profit-loss analysis and the results of the analysis obtained are evaluated within the scope of Rational Choice Theory. In addition, suggestions were made to protect other companies in the industry not to be faced with the similar results.

Keywords: Homo Economicus, Rational Choice, Rational Choice Theory.

JEL Codes : G30, G38, G39.

1. Introduction

In our modern world, we face several ethical scandals such as Enron, Lehman Brothers, Tyco, Waste Management, Health South, Freddie Mac, Bernie Madoff etc. in the last twenty years. For coming across corporate malfeasance, some questions about ethical issues are arised. Generally speaking, the most immediate effect of this corporate malfeasance is betrayal of the trust and confidence (Carson, 2003). Lately, Volkswagen Group’s emmision test results cheating makes the same impact with these ethical scandals on decision makers and draws considerable interest from media channels like Guardian and New York Times. On a people to people level, everybody reaches a consensus on Volkswagen’s actions are unethical and wrong (Griggs-Hall, 2015). By the recent Volkswagen emission scandal, it can be clearly seen that business ethics is still playing a vital role in the business life and to maximize the company’s profit, business actors should remain loyal to the business code of ethics (Caria and Hermans, 2016). Sometimes white collars have some problems with following the ethical rules in the business life and this processes arrives at the conclusion with a white collar crime. So looking deeper into the term of white collar will provide a wider point of view while assessing the company decisions.

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2. White Collar Crime

As stated in many resources, nearly half of the large companies in almost every sector in Europe have been the victims of various economic crimes like defalcation and abuse of trust (Blickle et al., 2006). Schlegel (2003a, 2003b) works on the white collar criminality issue, it's context and scope.

There are a vast number of approaches from different angles like rational choice approach from economics angle, the individualism approach from sociology angle, the narcissism approach from psychiatry angle and behavioral self control approach from criminology angle (Blickle et al., 2006) about the concept of white collar crime in the literature.

From the economic point of view of crime or in the words of Becker (1974), to commit a crime, the rationally expected utility of the action should be much more higher or bigger when it is compared with the potential results of the action so it will be possible to talk about the net material advantage that will be obtained as a result of the action. But on the other side, this theory doesn't take some other facts like striving for enjoyment or desiring for material goods into account. That is to say, in this theory the decision maker is the person who attempts to maximize his benefit by scarce sources – which is identified as “homo economicus” in the literature and it's assumed that “homo economicus” always make rational decisions.

According to the sociological point of view to the white collar crime, the main assumption is that the white collar criminal attaches great importance to the personal wealth, social settings and material success (Coleman, 1987). As Coleman (1987) mentions in his study, sometimes a white collar crime consists of some independent components like various free behaviours and it should be decomposed and each independent small units should be handled carefully. Although Coleman (1987) proposes a wide conceptualisation in his research, narrower conceptualisation is a trending topic in the actual criminology literature. Coleman (1987) also mentions that all of the white collar crimes are well-thought-out actions, not committed by passion or desire. The main underlying reason of white collar crimes is to make profit or reach business success which will provide benefit which goes by the name of “economic gain” in the literature.

To add more, white collar crimes differ from any other types of crimes because white collar crime cause far from big loss like deaths or injuries. Human motivation has a complicated structure by its very nature so it is not possible to describe the underlying concepts of all white collar crimes. Sometimes, white collar criminals commit crime to get through to high standards of living that their business life requires or for these white collar criminals, committing crime seems ordinary as a part of their business routine. As Coleman (1987) adds, sometimes white collar is in a struggle for gaining its peers' support or getting its peers' buy-in. Besides this, top management can commit an illegal act for their thirst for wealth, big economic gain and success.

Blickle et al. (2006) mention, the people who overestimate material things, material success, personal richness and enjoyment are known hedonists in the literature.

It should be also pointed out that, Collins and Schmidt (1993) make one of the backbone researches which is the first psychological study for determining the effects of the personality on white collar crime in the literature. Collins and Schmidt (1993) present that the white collar

criminals exhibit some bad behaviours like irresponsibility, breaking rules, taking extreme risk and untrustworthiness.

As Blickle et al. (2006) define in their research that white collar crime is a kind of non-violent crime and it is committed to cash in on by manipulation. Blickle et al. (2006) also give great importance to remarkable white collar crimes which specify the crimes perpetrated by executives at board level in their research. Besides this, there are two underlying reasons of white-collar criminal perpetration: “self-servingly acts” for satisfying personal or a group of people’s benefits in the company and “on behalf of the company acts” with the aim of protecting or enriching the company’s benefits. Blickle et al. (2006) bring out the relationship between hedonistic personality type and white collar criminal tendency. According to the research, it is found that white collar criminals are more hedonistic when they are compared with noncriminal executives. Besides this, the other finding is consistent with the idea that the more executives have the hedonistic instinct, the higher possibility of making or keeping money lawlessly. Blickle et al. (2006) also focus on narcissistic personality structure of the white collars and their tendencies to commit a white collar crime.

Chambliss (1967) stated that executives were not crimers and they sought for the potential cost and benefit of their actions. On the other side Kadish (1977) identifies white collar crimes as the “calculated, prudential and profit based” processes. When it comes to severe sanctions, executives will have more things to risk about their life as for Braithwaite and Geise (1982). To Paternoster and Simpson (1996), one of the most vital values that shouldn’t be risked is “good name and reputation”.

To understand corporate white collar crimes more deeply, it is important to have comprehensive knowledge of the rational choice theory.

3. Rational Choice Theory

According to the Rational Choice Theory, people are completely independent when they are choosing their way to act in other words their course of action. In the theory, people are self-seeking so they work on maximizing their own personal interests and enjoyment first. But on the other side, there are clashes of ideas when we talk about the idea of being a social animal. Hirschi (1986) identifies the concept of crimes as the foible of a defective animal. To put it more explicitly, the concept of crime is defined as the intragroupal course of action observed or released in unusual or extraordinary conditions of a moral animal. Hirschi (1986) also claims that the rational choice theory is against the nature but it can be applied in the unnatural circumstances in contemporary world.

Hirschi (1978) mention that there is a complicated conflict between the main assumptions of the human beings which underlies criminological theorizing. These main assumptions are:

- According to the first assumption, human beings are social animals and their lives depend on other humans. (This idea is consistent with Aristotle.)
- According to the second assumption, human beings have social control, they make rational choice and they are routine activity theorists who think that crime is not relatively affected by some social factors like poverty, social and economic inequality or unemployment. Hereunder this assumption, human beings are self-seeking.

Researchers that work on rational choice theory present a holistic view to individuals' decision making process. In other words, incorporating the personality factor into the rational choice model can provide a more well-functioning decision making process (Piquero et al., 2005). Piquero et al. (2005) also state that the desire for control (DC) is another factor that should be integrated into the rational choice model.

In almost every research, the rational choice theory can be expressed as the product of the cost-benefit analysis. Within the rational choice framework, the actual choice is selected between the alternatives but in the selection process the decision maker's rationality is limited (Simon 1957; Bentham, 1970). Besides this it is possible to say that the decision making of illegal acts is far from being perfect. Because:

- This decision process doesn't meet the perfect circumstances,
- The actors of the decision process-human beings aren't really good information processors,
- Some choices are made so quickly and they are still immature, so the consequential losses and profits are ignored (Fattah, 1993).

The Rational Choice Theory of corporate crimes which is developed by Paternoster and Simpson is based upon a normative utility theory. So it is possible to mention the two main assumptions of the theory (Paternoster and Simpson, 1996):

- Before committing an illegal act, both the potential costs and benefits of the actual act are taken into account which means human beings are rational actors and their behaviors are formed by the potential results of their acts (Cherniak, 1986),
- The decision maker's perceptions and expectations about the illegal act's potential reward and cost are taken into account which means the critical factor of the model of corporate crime is individual. In other words, the illegal acts decisions are made by individuals.

As Paternoster and Simpson (1996) mention in their study, business imperatives and business structure of the organization have an impact on the white collar criminals. So the factors that have impact on these criminals are:

- The potential criminal's personal risk and return perception,
- The potential criminal's occupational risk and return perception and,
- The existence or absence of offending inducements or restrictions within the body of the organization.

In addition, another factor that can affect the employee's decision to act in an illegal way is the structure or conditions of the company. The structure or the conditions of the company also include overall economic health and the moral climate of the company (Jack et al., 1988). Also Paternoster and Simpson (1996) test the rational choice theory empirically and mention the components of the theory separately. In their research, they state the cherisher factors that provide the appearance of corporate crime as (Paternoster and Simpson, 1996):

- Perceived profit of the act for both individuals and the company
- Perceived both formal and informal sanctions for both individuals and the company
- Feelings of shame or self-imposed punishment

- Moral inhibitions against committing the act
- Perceived loss of prestige for the company
- The organizational context and the structure of the company
- The personality traits of the company

In sum, according to the vast number of researches in the literature related to the Rational Choice Model show that the decision of acting in an illegal way is influenced by the perceived incentives and disincentives of the ex ante act, the organizational context and the structure of the company and the moral climate of the firm. The decision of committing an illegal act or in other words corporate crime is directly associated with the total sum that will be saved by the act, the chance to challenge a suspect law, the positive reputation of the firm and the higher revenues that will be generated for the company by the crime. As Paternoster and Simpson (1996) state in their research, the illegal act must bring economic benefit to the company or increase the company's prestige. They also claim that the self-possession of the executives and the risk of falling behind the peers have a positive effect on the decision process of acting in an illegal way in the corporate world.

From the social control theory it can be said that, the decision makers take the potential cost and benefits of their acts, legal and illegal results of their behaviors into consideration. When decision makers are evaluating the pros and cons of their actions, they should also consider the alternative course of actions too. Because the main aim is to find out the best option that will provide the maximum pleasure to the decision maker. According to the pure social control theory, every people has the potential to commit a crime, but it is important to set the price of the crime correctly. By saying price, it is aimed to define the output of the illegal act and probability of uncovering. Both rational choice theory and social control theory can be implemented various criminal acts of the social systems (Hirschi, 1986). From the social control theory- in contrast with the rational choice theory- the context and scope of the sophisticated animal term evolved to impulsively acting animal.

4. Volkswagen Case

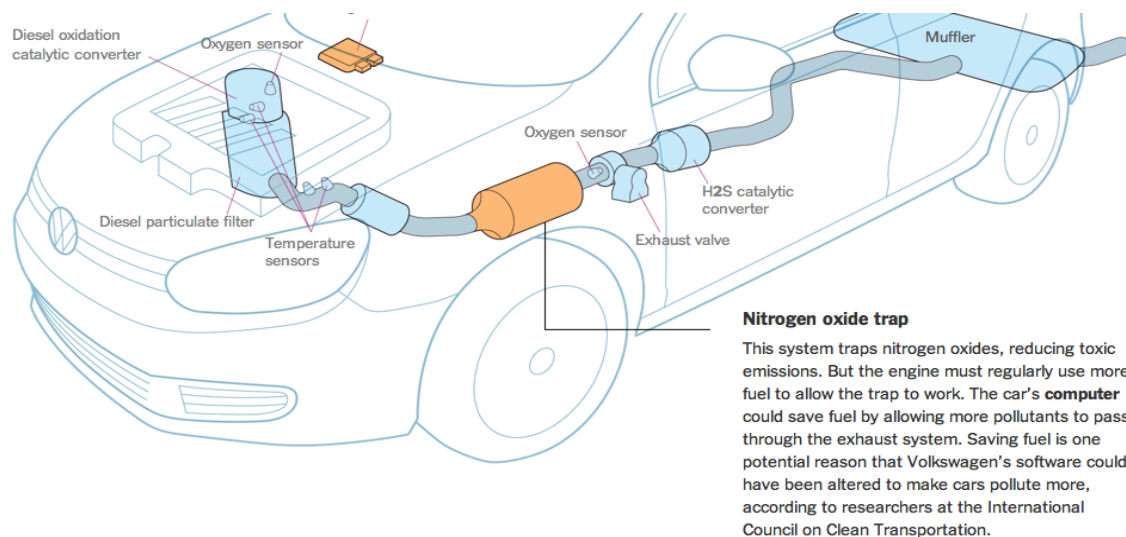
Volkswagen case which is also known as "Dieselgate" is one of the most significant examples of unethical behavior that spread company-wide and it is the biggest fraud in the auto company's 78 years in business life (Cremer, 2015). The main reason that makes this scandal a worldwide problem is that the Volkswagen Group with its headquarters in Wolfsburg is one of the world's leading automobile manufacturers and the largest carmaker in Europe. Also the Volkswagen Group comprises twelve brands from seven European countries: Volkswagen Passenger Cars, Audi, SEAT, ŠKODA, Bentley, Bugatti, Lamborghini, Porsche, Ducati, Volkswagen Commercial Vehicles, Scania and MAN. (<http://www.volkswagenag.com/>). The Volkswagen Group aims long-term growth not short term success and it doesn't set a target for short terms. One of the primary objective of the Volkswagen Group is making not only their employees but also the society benefit from their achievements (Cue, 2015).

It is possible to say that it is a kind of environmental fraud by breaking the legal regulations via manipulating the emission results. On the other side, there can be any other reason that lies behind the idea of "the wrong actions taken by bad people intentionally or unintentionally" when talking about the white collar crime. Ragatz (2015) predicates Volkswagen facts on enduring reasons in his research and accounts for the essentials of the Volkswagen scandal. He states:

- People have a tendency to be overly optimistic about being more successful.
- People have a tendency to overestimate their skills so they become overconfident.
- People can set aggressive goals like sustainable growth and the perception of invincibility so these offensive goals can lead to overreaching.

Starting from 2009, Volkswagen abandoned the Clean Air Act by using the defeat devices on its diesel cars till 2015. In other words, Volkswagen Group installed a software programme to manipulate the emission control test results of nearly 11 million diesel vehicles' engines for more than six years (Brooks, 2015). Volkswagen diesel engines' on-road performances show that NO_x emission test values went over the limit extremely in both Europe and US. The unethical action of the Volkswagen Group, put it differently the emission scandal, arises from the dilemma of exploiting or not exploiting the action of the technological knowledge in favor of Volkswagen to manipulate the emission tests results to increase the vehicle sales (Caria and Hermans, 2016) (Figure - 1)

Figure – 1: Volkswagen's Technology to Reduce Emissions of NO_x from Diesel Engines by Trapping the Pollutant



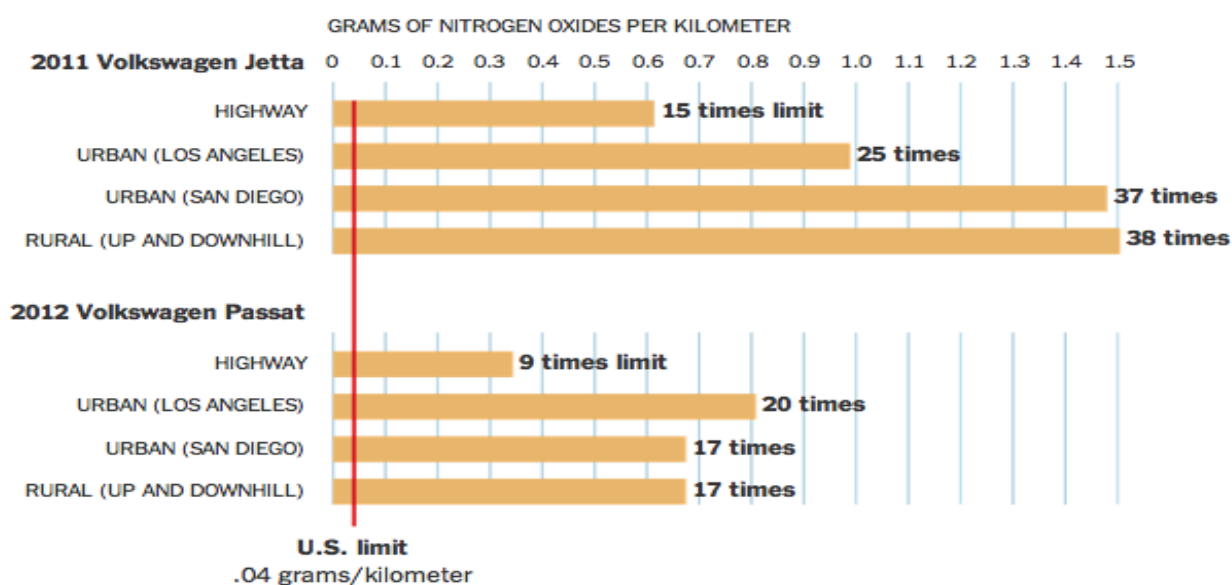
From the announcement date, the stocks of the company went into freefall and Volkswagen was exposed to a danger of criminal proceedings (Plumer, 2015). U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) announced that they will bring an action against Volkswagen. Kodjak et al. (2015) mention International Council of Clean Transportation (ICCT) and West Virginia University research Project in their research. The main aim of this research project which was conducted between the years 2013 and 2014 was to measure the real emission values of diesel vehicles in the US. For conducting the analysis three models (Volkswagen Jetta, Volkswagen Passat and BMW X5) were chosen and in-use tests were performed by using portable emissions modeling systems. But as New York Times states, there are some other cars known to include these scandal like Golf, Beetle and Audi A3.

When performing the tests, there were five categories of driving routes determined. These routes are highway route, urban route, suburban route, rural uphill route, rural downhill route. In these five different driving routes, real world NO_x emission levels were

measured and it was found that the results of Volkswagen Jetta was almost 35 times the standard level that should be. On the other side the test results of the BMW X5 was between the normal values so Posada – the project leader stated it is possible to satisfy the expectations of U.S. emission standards (Kodjak et al., 2015). In the practice there is a big gap between the actualized values and setpoint of the pollutant emissions. Kodjak et al. (2015) touch upon the idea that the gap causes a global problem and requires a coordinated global recipe (see Table – 1).

Table – 1 : Results of the NO_x Emission Tests of Volkswagen Cars

Average emissions of nitrogen oxides in on-road testing



Source: Arvind Thiruvengadam, Center for Alternative Fuels, Engines and Emissions at West Virginia University

As stated in EPA's notice of violation of the Clean Air Act to Volkswagen Press Statement, emission tests were conducted for 97 trips, more than 140 hours and 6.400 kilometers of driving. In total 482k vehicles in USA and 8.5 million vehicles in Europe were sold (Oldenkamp et al., 2016). According to the results, tested vehicles' emission values were almost seven times more than the standard values determined by Euro 6. There were obvious performance differences between the tested vehicles and based on this fact it can be said that clean technology for diesel vehicles is already available (to give an example BMW X5's test results were under the Euro6 emission standards). As Thompson et al. (2014) state in their research that the vehicles which have these defeat devices exhale 0.9 gram of NO_x for 1 kilometer and it is nearly 21 times higher the standard amount that is set by the regulations in the US (0.043 g/km) (Oldenkamp et al., 2016).

Volkswagen commanded all of its dealers to stop selling the vehicles with defeat devices such as Volkswagen Jetta TDI 2009-2015, Volkswagen Beetle TDI 2009-2015, Audi A3 TDI 2009-2015, Volkswagen Golf TDI 2009-2015, and Volkswagen Passat TDI 2014 and 2015 on September 21, 2015. In addition Volkswagen Company stopped the sales of certified second hand vehicles with four-cylinder diesel engines (Griggs-Hall, 2015).

Ragatz (2015) also defines the mandatory precautions that should be taken to avoid from the fraud at Volkswagen. These precautions are:

- Successful managers should identify the things that can go wrong or the worst case that can be faced before they occur.
- Successful managers encourage their employees about facing with the worst things in business life and they hold their employees in readiness, leave them on hand and invest in the loss.
- Successful managers also build guardrails to offer a solution by abiding and emphasizing to the company's values.

Despite there is no certain information to evaluate the underlying reasons of the Volkswagen Group's illegal action- integration defeat devices in their vehicles- to manipulate the emission test results, there are some researches that make a guess about the action. To give an example Caria and Hermans (2016) state the underlying reasons as to be able to compete with its peers in the competitive market and generate more profit. In addition to this, Volkswagen could cheat those emission tests to understate the actual test values in an attempt to sell its cars in the countries where there are some serious regulations like the US (Caria and Hermans, 2016).

The Total Cost of The Scandal

Oldenkamp et al. (2016) try to evaluate the potential results and impacts of the Volkswagen scandal on general public health in their research. They first calculate the amount of NO_x more than the legal limit and this amount is found nearly 526k tonnes. Between the years 2009 and 2015, almost 9 million diesel vehicles with defeat devices were sold in Europe and the US.

On the other side, NO_x emissions can cause dust particles and these fine dust particles can cause or worsen some pulmonary diseases like bronchitis, asthma, emphysema or lung cancer or cardiac diseases or the process can end up with premature deaths (Lelieveld et al., 2015; Tang et al., 2015). As Krall and Peng (2015) state, NO_x can generate pollutants that are harmful to public health through chemical reactions with other peripheral contaminating particles including nitrogen dioxide, ozone, and ammonium nitrate.

Tang et al. (2015) also adds the fact that the total of the adjusted life years and fatality rates and the number of the terminally ill patient with respiratory disease are increasing as a result of the excessive NO_x emissions. Oldenkamp et al. (2016) present not only the cost of the physical damages of the emission scandal but also the monetary statistics to present these damages in US dollars as a lost value. To quantify the total sum, Oldenkamp et al. (2016) build two cases: the case in which the cars with defeat devices are recalled by Volkswagen and the other case in which the cars with defeat devices will complete their working life entirely. In another research that is conducted by Heroux et al. (2015), value of statistical life is implied in order to evaluate the health factor's effect on cost-benefit analyses. As a result of the software programme that is developed and the emission tests' results manipulated by Volkswagen Group, the excessive amount of NO_x caused much more health damages on people than expected (Oldenkamp et al., 2016).

As Barrett et al. (2015) mention in their research, nearly 37 million kg excess NO_x has been exhaled from 2008 to 2015. According to the calculations of Barrett et al. (2015), nearly

59 early deaths with a monetized cost of approximately \$450 million. And they add the 31 cases of chronic bronchitis, 34 hospital admissions, nearly 120.000 minor restricted activity days, 210.000 lower respiratory symptom days and 33.000 days of increased bronchodilator usage as morbidity impacts.

Barrett et al. (2015) found the social cost of the excess emission \$ 450 million over the sales period of 2015. When they looking at 2016, they foresee 130 early deaths and \$ 840 million social costs. In the research the estimated monetized mortality costs due to the excess emissions are about to \$450 million between the years 2008-2015. In addition to that, Barrett et al. (2015) build a scenario and according to this scenario there will be no recall and sales from September 2015. And the estimated future cost will be \$910 million, nearly \$2800 for per vehicle. According to an alternative scenario, all the vehicles with defeat devices are recalled at a fixed rate and all of them will be replaced with the new ones during the year 2016. Barrett et al. (2015) calculate the cost for this new scenario and they forecast the total cost of future mortality effects can be decreased by 93% to \$ 61 million. This total sum is equal to 62% of the total estimated costs from 2008 to 2040.

One more important result of the cheating is the “free fall of customers’ trust and satisfaction” within the context of “Volkswagen brand” (Financial Times, 2016). Abusing trust and confidence by Volkswagen Group can cause permanent damages of the brand name, brand value, its sales and strength in the market (Griggs-Hal, 2015).

Considering the matter from a different angle, the CEO of the Volkswagen Group Martin Winterkorn bowed to pressure and resigned at the age of 68. After the announcement of the scandal, the CEO Martin Winterkorn, took the responsibility for the emission cheating (Cremer, 2015). As Winterkorn stated that this big fault is derived from “some employees” and although it was not his fault he promised to cooperate with professionals on a ruthless inspection of the manipulation process (Ewing, 2015). In October 2015, it was thought that the number of the frontmen of the scandal is limited. Winterkorn announced that although he doesn’t have the exact number of the engineers that are responsible of the scandal, he added that only a small group of engineers embedded the defeat devices. He also mentioned that the scandal was not a result of the Volkswagen Group’s corporate decision (Boston et al., 2015).

In his explanation he lays emphasis on the matter that he has no awareness of any wrongdoings in Volkswagen; however he assumes the full responsibility for the scandal and takes the consequence of the crisis (Griggs-Hall, 2015). The Volkswagen Group’s executives (Heinz Jacob Neusser – the head of brand development, Ulrich Hackenberg - Audi research and development head, and Wolfgang Hatz – Porsche research and development head) in US also submitted their resignation or were unseated (Krall and Peng, 2015). Later Volkswagen considered engineers guilty of the emission scandal and stated it was happened behind the corporate heads’ back (Puzzanghera and Hirsch, 2015). After Winterkorn resigned, 62 year old the CEO of Porsche Matthias Mueller was assigned for the CEO position of the Volkswagen Group (Makortoff and Pramuk, 2015). As Mueller expressed that his initial objective would be regaining credibility and the company would strictly follow the rules and regulations of the sector (Risen, 2015). After Joney Day’s-the law firm and external investigator of Volkswagen- inspection it is found that fifty employees were in the crime and they confessed that they have already known the emission manipulation. And Boston et al. (2015) express that, although some employees notified their managers about the distortion of the emission tests results in 2011, the managers turned a blind eye to the results.

As Bomey (2015) states, Volkswagen's stocks dropped 18.6% by September while facing fines and costs of recalling cars. In November, the company's stocks had dropped 25% (see Table-2) when it is compared to the stock prices of 2014 (Davies, 2015) (see Table -3).

Table – 2 : Volkswagen Stock Price Trend

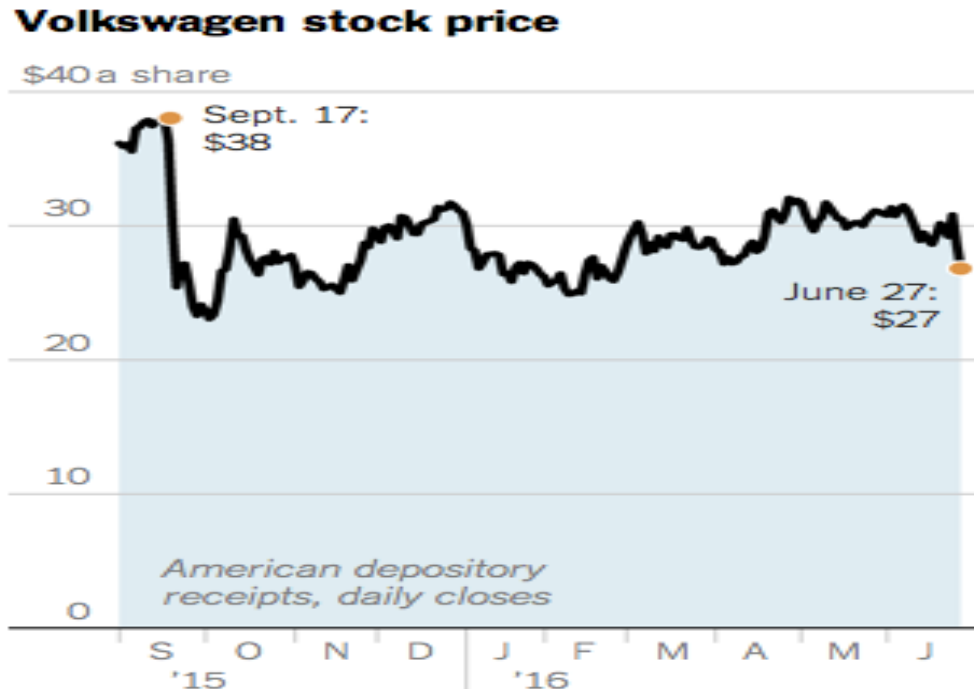
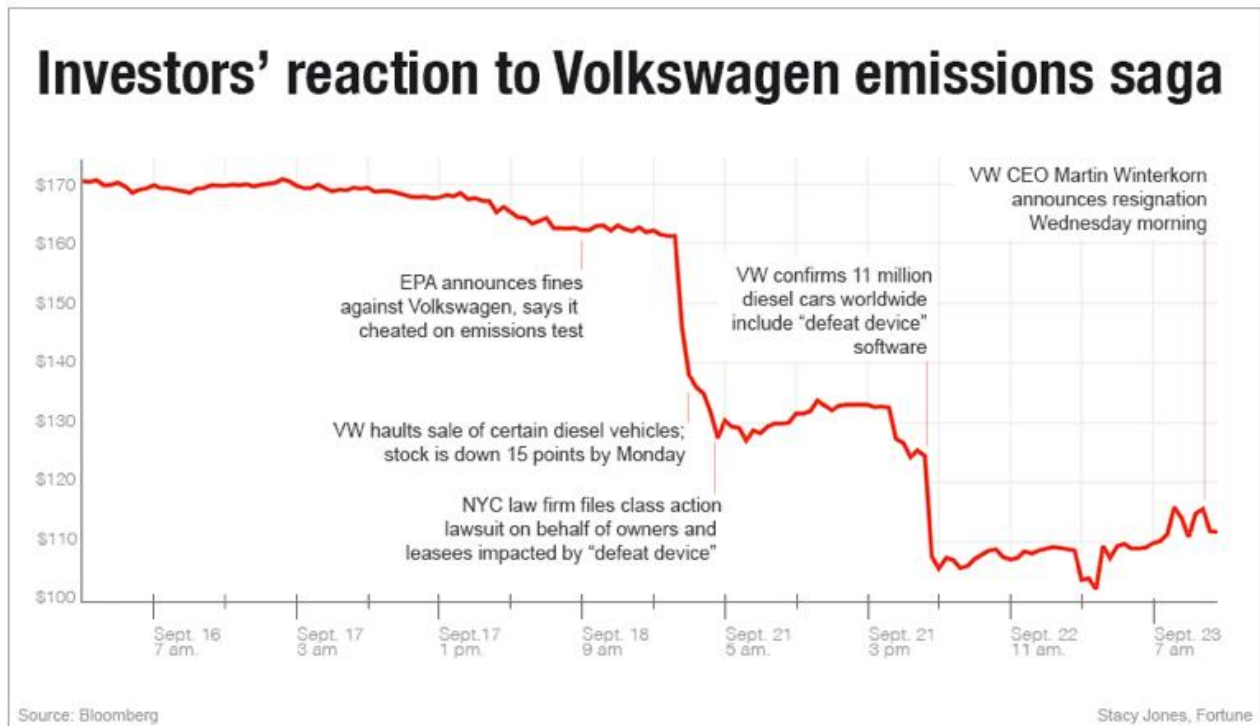


Table – 3: Volkswagen Stock Prices Between 2012-2016



Source: Google Finance.

For Colvin (2015), the scandal has cost Volkswagen 40% of its value in just two days and investors lash out at Volkswagen for the scandal (Table-4).

Table – 4: Investors' Reaction Against Volkswagen

In addition to these, the company starts to chase a "Goodwill" program for the victims (vehicle owners) of the scandal and as it stated in the programme, Volkswagen will pay the owners \$1000 in compensation. The overall cost will be around \$ 500 million for Volkswagen (Fischer, 2015).

In sum, Oldenkamp et al. (2016) state in their research that this manipulation costs;

- 45.000 disability-adjusted life years,
- A value of life lost (due to premature deaths associated with the additional NOx emissions) of more than 39 billion US dollars,
- 5.3 times larger than the 7.3 billion US dollars that Volkswagen Group has set aside to cover worldwide costs related to the diesel emissions scandal,
- The vast majority of the health damages occurred in Europe (44.000 disability-adjusted life years or 38 billion US dollars, compared with 675 disability-adjusted life years or 450 million US dollars in the USA).
- Emissions of NOx are approximately 5.8 times higher in Europe than in the USA.
- Volkswagen Group also states that it would set aside 6.5 billion euros (about \$7.3 billion and it is the equal to the 6 months' profits of VW) to cover cost making the vehicles with defeat devices and the scandal would cut deeply into the profit of 2015.
- Volkswagen's stocks plunged down (35% below in the closing session on Friday) before news of the diesel deception broke (NY Times, Sep.22 2015).
- Volkswagen's market value plunged down nearly € 25 billion in two days of trading (NY Times, Sep.22 2015).
- United States Justice Department can condemn Volkswagen up to \$37.000 penalty for every single fraudulent vehicles (Griggs-Hall, 2015).

5. Evaluating the Volkswagen Scandal

In the literature, utilitarianism states that a good action is the one that generates a good outcome for the larger number of people. The term of utilitarianism is used for the actions concluded and provide a big benefit. The underlying logic of the utilitarianism is maximizing enjoyment of people in other words it requires picking up the best choice that will increase pleasure of as many people as possible. As Caria and Herman (2016) state in their research *“according to utilitarianism everything in life and every choice can be reduced to a score of pleasure or happiness, even if there are lives at stake.”*

By the look of them, it is possible to talk about the term of utilitarianism from the different actors', including Volkswagen Group and its employees, its CEO, its customers, The Environmental Protection Agency (EPA) and third parties such as people who are residents of the countries that Volkswagen diesel vehicles were available, point of views of the Volkswagen scandal. From the utilitarianism view, as well as the way of behaviour of the Volkswagen Group is unacceptable, it is far away from the aim of maximising the greater good. The Volkswagen Group was aware of the fact that its way of behavior was unethical and wrong because they created a software system to manipulate the emission tests results intentionally. This manipulation could have regarded as an opportunity or utility for Volkswagen however it didn't bring common benefit.

Rawls (1989) developed a multiple stage structure to determine if the action is ethical or unethical. There are four stages in the structure and the structure gives the chance to check whether the action is tolerable. If this four stage structure is applied to the Volkswagen case (Caria and Hermans, 2016):

- The Volkswagen Group integrated the defeat devices and kept it a secret. It means that Volkswagen dissembled and lied about the truth (Identify a Maxim),
- What happens if the peers of the Volkswagen Group manipulate the emission test results too ? Does Volkswagen have the chance to sell and make money by this way? (Universalise the Maxim),
- Volkswagen sold its vehicles with defeat devices so these vehicles' emission test results were much more higher than the standarts. What happens if there was a rule in the world that every company lies about the emmission rates and their products? (Establish the Maxim),
- The envisioned world is a kind of world that this maxim is performed but companies and their employees don't will to live in such a world. It isn't ought to do Maxim and the action of Maxim is forbidden (Will the Maxim as a law).

It is not right to say that this emission fraud is under the responsibility of a specific group of people. Although the Volkswagen Group followed a wrong strategy and made irrational decisions, this illegal act of Volkswagen can't be stated as an accident. Because this illegal act can't be regarded as a petty crime, it is more likely to be a corporate fraud (Zhou, 2016).

From Hakim's (2016) point of view, the Volkswagen scandal's potential results can be stated like this:

- Endangering Public Health
- Slump in Workforce's Bonus
- Decline in Sales

- Sharp Decrease in the Stock Prices of Volkswagen
- Creating Hassel for Volkswagen Dealers.

According to Caria and Hermans (2016) it can be said that, Volkswagen should accept the responsibility for its illegal action and cheat so it should pay the price for the manipulation when looking at from both deontology and utilitarianism angles. Also from the shareholder theory side, Volkswagen acted unethically. According to the executive ethical leadership reputation matrix which is developed in 2004 by Trevino and Brown, the Volkswagen Group should give a new manager authorization and the manager should be a moral one (Caria and Hermans, 2016).

On the other side Zhou (2016) also gives advices to Volkswagen on getting over the effects of the scandal. Zhou (2016) suggests three possible solutions:

- Having restart under a new brand name (rebranding)
- Joining an independent verification agency
- Setting up (posting) a bond.

Zhou (2016) harps on about applying all the possible components for the aim of restoring/re-establishing credibility of Volkswagen and identifies the worst scenario as hanging off without taking any precautions.

As Bomey (2015) mentions in his research that the Volkswagen Group is trying hard to recuperate via open communication and righteousness. Also Mueller builds a model which consists of five stages to get away with the crisis. According to this model (Krok, 2015):

- Encouraging the victims (customers) of the crisis,
- Finding out the responsables of the scandal,
- Giving every region and brand more autonomy,
- Changing the company's corporate culture with openness, cooperation, perfection and social responsibility, and
- Postpone the 2018 strategies to the year 2025

In Cue's (2015) research it is stated that a professor from the University of Duisburg-Essen mentions the special pressure on Volkswagen employees. Although there is obvious pressure on employees, Volkswagen doesn't confess that this crisis is rooted in the company's corporate culture (Cremer and Bergin, 2015). In addition Peter Henning, the expert in the sector and white collar crime field at Wayne State University, labels the probable cause as the need that is based on a culture set at the higher levels and he thinks that mid-level managers can act in this way to reach the sales targets or profitability levels (Kimball, 2015).

6. Conclusion

In 2014, Volkswagen was regarded as the second biggest auto company after Toyota Motor Corporation. In 2015, Volkswagen confessed the manipulation of diesel engines' emission and as a result of it, Volkswagen was obliged to bear a substantial amount cost. To get away from the crisis, Volkswagen reached an agreement with three public relations company from US, UK and Germany (Mansouri, 2016).

In the literature there are a vast number of researches that are made to offer a remedy for Volkswagen. Ndedi and Feussi (2015) advise Volkswagen to handle and revise its regulatory structure, perception of business ethics, corporate culture and vocational education and training system within the company. In the research there are also suggestions for the other companies that took place in similar unethical or illegal actions too. According to the research, the rules, regulations and enforcements should be stricter as much as possible so that Volkswagen scandal can be an exemplary case. (Ndedi and Feussi, 2015).

Ndedi and Feussi (2015) underline the fact that there is need for a new leadership with a wider point of view, perception and discernment and this new blood breathes new life into the company by adding brand new mentalities and personality structures. Because in our modern world, one of the most important thing is to preserve the reputation of the company for its health. It should be pointed out that reputation is not inborn or don't come from within in other words companies can gain reputation in time by help of policies, connections, networks, behaviors, beliefs or values etc. Ndedi and Feussi (2015) also express that if the company is completely wrong and face with a crisis because of its fault like in the Volkswagen case, the best alternative to do is apologizing as soon as possible without loss of time, acting caringly, and assuming the full responsibility. And the bad news should never come as a surprise and should be delivered as early as possible and all at once. Although transparency is must for every company and in the crisis periods, the company's CEO has to be the first person that takes up the challenge in the company (Ndedi and Feussi, 2015).

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