

# **Volkswagen (VW) Group Emission Scandal: Implications on Corporate Social Responsibility and the environment**

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## **Abstract**

The purpose of this paper to illustrate how a multi-national corporate culture affects a company's values with respect to corporate social responsibility and the environment. The research method is a case study used to provide an up-close and an in-depth understanding of a single case that is set in real world contexts.

In 2014, an independent body in Europe discovered emissions discrepancies for the diesel models. In the United States (US), a group of scientists discovered that the emissions far exceeded the legal limits set by standards and confirmed the findings in Europe. When a VW vehicle is on the road, the emission control is switched off. The installation of the "defeat device" software caused VW's vehicles to emit up to 40 times more nitrogen oxide (a pollutant) than the US legal limit in real world driving. Nitrogen oxides emitted from the defeat device cause respiratory problems and is a form of air pollution causing premature death.

In May 2014, the US findings resulted in a notice of violation of the Clean Air Act by the US Environmental Protection Agency (EPA) issued to the company on 18 September 2015.

My findings found that VW Group's legitimacy and continued survival can be assured when the implied corporate social responsibility and social contract between the company and society are fulfilled through the activities of the company that is consistent with the community's values. Legitimacy theory is used to predict that VW Group's management will implement policies to maintain and restore corporate legitimacy.

**Keywords:** Emission scandal, corporate social responsibility, the environment

**Track:** Business/ Accounting Education

## **1.0 Background History and Current Status**

The Volkswagen (VW) Group is a company formed in 1937; firstly as a manufacturer of a famous car known as the “Beetle”. The word Volkswagen is a German word; translated into English it means “People’s Car”. The company was founded 78 years ago by the Nazis with the help of a billionaire family, Ferdinand Porsche's descendants, a German state government (Lower Saxony) and powerful labour unions (Ewing & Bowley 2015).

VW Group is a leading automobile manufacturer and the largest car manufacturer in Europe. The VW Group consisting of 340 subsidiaries is a German company with head office located in Wolfsburg, Lower Saxony, Germany. The company designs, manufactures and distributes passenger and commercial vehicles, motorcycles, engines and turbo machinery. The VW Group is divided into two main divisions; that is the Automotive Division and Financial Services Division. The VW Financial Services Division provides other related services, such as financing, leasing and fleet management. The division also offers financial services for the VW Group brands in 49 countries worldwide, equity investments and service contracts. Altogether there are 100 production facilities across 27 countries.

Production of cars in the company grew rapidly in the 1950s and 1960s. In 1965, the company acquired the Auto Union, following which the company produced the first post-war Audi car models. In the 1970s, VW Group launched a new generation of front-wheel drive cars, such as Passat, Polo and Golf. Golf became VW Group’s best-selling car. In 1986, the VW brand became the first non-German model sold by the company after it acquired a controlling stake in SEAT, a Spanish car manufacturer. The company continued to acquire control of other car companies, such as Skoda (a Czech car manufacturer) in 1994, Bentley, Lamborghini and Bugatti in 1998, Scania (a Swedish car industry manufacturer of commercial vehicles) in 2008 and of Ducati, MAN and Porsche in 2012. VW Group acquired MAN Finance International in 2014, operating under the name of MAN Financial Services. This resulted in trucks and buses also becoming part of the company’s core business. In 2014, the VW Group entered the Malaysian and South African markets (Volkswagen Financial Services 2014, p. 3).

By 2018, VW Group’s prime goal is to be the world number one seller of vehicles (overtaking Toyota), a landmark the Group achieved three years earlier (Meiners 2011; Bomey 2015; Riley 2015 & Schmitt 2015).

## **2.0 Research Objectives and methodology**

The research question of this paper is to explore the extent to which the financial performance of VW Group affects the company’s corporate social responsibility. A case study is used to provide an up-close and an in-depth understanding of a single case that is set in real world contexts. Actions in relation to corporate social responsibility were only taken when VW Group cars sales were affected following news media ran extensive coverage on the scandal.

Stakeholder theory sets the framework for the relationship between corporate social responsibility and financial performance. Past research on corporate social responsibility and financial performance found that there are no definite conclusions that clarify the existent/ in-existent correlation (Cochran & Wood 1984; Aupperle et al 1985; McGuire et al 1988; Waddock & Graves 1997; McWilliams & Siegel 2000; Orlitzky et al 2003; Smith 2003 & Ortas et al 2014).

Pava (2008) found companies that not act with social responsibility will incur significant costs representing a financial burden likely to reduce profits and leading to a less socially aware

entity. By contrast, Pave (2008) also demonstrated that companies that adopt socially responsible policies are more profitable. Pave (2008) finding is applicable to VW Group as the company net profit was \$11,068 million in the financial year 2014 and following the emission scandal, net loss was \$(1,361) million in the following year in the financial year 2015. Dividend per ordinary share fell from \$4.80 in 2014 to \$0.11 in 2015. The net loss was due predominantly to the company setting aside \$16.9 billion as contingency reserves for the diesel scandal to cover for such expenses such as ongoing technical, customer-related measures, repurchases of cars and legal risks (VW 2015, p. 7, 22, 23). Legitimacy theory predicts that VW Group's management will implement policies to maintain and restore corporate legitimacy.

### **3.0 Sales and Market Share**

VW Group's global passenger car market share is approximately 12.9 per cent. The International Organisation of Motor Vehicle Manufacturers (OICA) ranked VW Group as the world's second largest producer of motor vehicles in 2012, after Toyota and ahead of General Motors (World Motor Vehicle Production 2012). In 2013, VW Group's largest single world market was China. A total of 3.27 million units were delivered in China, followed by Germany with 1.16 million units delivered. In 2013, in terms of regions, the largest market was Western Europe with 3.65 million units, followed by Asia-Pacific with 3.64 million and South America with 908,000 units delivered. Over the past two decades, VW Group has held the largest market share in Europe. Twelve brands from seven European countries belong to the company; Volkswagen Passenger Cars, Audi, Seat, Skoda, Bentley, Bugatti, Lamborghini, Porsche, Ducati, Volkswagen Commercial Vehicles, Scania and MAN. The company ranked ninth in the Fortune Global 500 list of the world's largest companies in 2013 (Fortune Global, 2013). The following year, in 2014, VW Group achieved a production output of 10.14 million vehicles (Volkswagen 2015). In the first half of 2014, VW Group was global number two carmaker. The company sold 5.07 million vehicles, behind Toyota which sold 5.1 million vehicles.

### **4.0 VW Group Stock Market Listings**

The VW Group's products and services are globally recognised through its share listings in stock exchange markets. The company's shares are listed under the stock symbols of 'VOW' as ordinary shares and "VOW3" as preference shares. VW Group major stock indices include the following; DAX®, HDAX®, CDAX®, Prime All Share, Prime Automobile, Dow Jones EURO STOXX, Dow Jones EURO STOXX Automobile, EURO STOXX 50, FTST Eurotop 100 Index, S&P Global 100 Index, FTSE4Good, Advanced Sustainability Performance Index and MSCI Euro (Volkswagen 2015).

The shares are primarily traded on the Frankfurt Stock Exchange. The shares were first listed on the stock exchange in August 1961 at a price of Deutsche (German) Mark (DM) 350 per DM 100 shares. In Germany's domestic exchanges, VW Group shares include the shares listed in Berlin, Dusseldorf, Hamburg, Hanover, Munich and Stuttgart. VW Group shares were listed on international stock exchanges in Basel, Switzerland in 1967, Geneva, Switzerland in 1967, Luxembourg in 1979, London in 1988 and New York in 1988 (Volkswagen 2015).

### **5.0 Emissions Scandal**

On 18 September 2015, VW Group received a notice of violation of the Clean Air Act by the United States (US) Environmental Protection Agency (EPA) (Chappell 2015). Modern diesel vehicles are usually fitted with a tank containing a chemical compound allowing exhaust fumes

to be turned into harmless nitrogen and water. There is a trade-off between pollution control and engine performance (Spence 2015). The vehicle will cost more to drive if emissions are reduced and vice versa. A final determination of liability under the EPA has yet to be determined, but it was revealed that the company programmed turbocharged direct injection (TDI) diesel engines to activate emissions controls only during laboratory emissions testing. VW vehicles' nitrogen oxide output met US standards during regulatory testing only, making their vehicles appear to run cleaner than was the case in reality. VW's "defeat device" is a written software engine management unit able to detect the position of the steering wheel, vehicle speed, the duration of the engine's operation and barometric pressure. These criteria in the "defeat device" very closely match the EPA's required emissions testing protocol and allowed VW's vehicle to comply with emissions regulations through proper activation of emission control during testing, but these controls were not imposed during normal driving conditions. The software in the "defeat device" algorithm used information about steering patterns, engine use and atmospheric pressure to detect when the vehicle was under laboratory emissions testing.

When a VW vehicle is on the road, the emission control is switched off. The programming caused VW's vehicles to emit up to 40 times more nitrogen oxide (a pollutant) than the US legal limit in real world driving. That is, the installation caused the "defeat device" software to know when the vehicle was being tested and switched emissions controls on and off. VW Group installed this programming emissions-compliance "defeat device" in about 11 million vehicles worldwide, including Audi, SEAT and Skoda models and VW vans. Approximately 480,000 vehicles, including VW and Audi cars equipped with 2-litre TDI engines, were sold in the US during years 2009 to 2015 (Environmental Protection Agency 2015; Gardner 2015 & Ewing 2015).

## **6.0 How was VW Group Exposed?**

### **European discrepancies**

In 2014, an independent body, the International Council on Clean Transportation (ICCT) commissioned a study based on data from 15 vehicles. John German was co-lead of the US branch of ICCT and the idea for the test came from Peter Mock, managing director of ICCT in Europe. The US vehicles were put through on-the-road tests because US emissions regulations were more stringent than those in the European Union. This personnel expected the study to demonstrate the possibility that Europeans could run a diesel with cleaner emissions than was currently being done. Instead, the study discovered emissions discrepancies for the diesel VW Passat and VW Jetta models and no discrepancies for a BMW X5 (Bigelow 2015; The Guardian 2015).

## **7.0 Results from the United States testing**

In a separate study, a group of scientists from West Virginia University was awarded by John German from ICCT with a US\$50,000 grant for a study to conduct emission tests on three diesel cars (West Virginia University 2015); these being a VW Passat, VW Jetta and BMW X5. Data were purchased from Emissions Analytics, a UK-based emissions consultancy and from stakeholders in the Real Driving Emissions-Light Duty Vehicle working group in charge of amending Euro regulations. The scientists discovered that the emissions far exceeded legal limits set by both European and US standards and confirmed the ICCT's findings in Europe. Their findings were provided to the California Air Resources Board (CARB) in May 2014.

## **8.0 Effect of the Emission Scandal on VW Share Price**

Once publicity about these results occurred, VW's share price dropped steadily from a high \$US262.84 in April 2015 to \$US183.57 on Friday 18 September 2015. The company's share price dropped to \$US123.80 on Tuesday 22 September 2015, one day after the first day of trading of the EPA's Notice of Violation to VW Group. Overall, VW Group share price lost about one-third of its value after Friday 18 September 2015 and more than 50 percent after its peak in April 2015 (Fleming 2015 & Fairchild 2015).

Other German automakers' share prices were affected also by the emission scandal. BMW's share price dropped by 4.9 percent and Daimler's by 5.8 percent (Smith 2015). One of VW Group's biggest shareholders, Qatar, has a 17 percent stake in the company. When Qatar's share price dropped, the company lost approximately \$US5 billion in shares value (Kottasova 2015).

## **9.0 Health Effect**

Nitrogen oxides emitted as a result of the defeat device may cause respiratory problems, such as asthma, bronchitis and emphysema and are a precursor to ground-level ozone (Davenport & Ewing 2015; Federal Office of Environment 2015). Nitrogen oxides are known to have caused heart problems and are a form of air pollution estimated to kill approximately 50,000 people in the US annually (Borenstein, 2015). In the US, the journal of Environmental Research Letters estimated that approximately 59 premature deaths were caused by the excess pollution produced between years 2008 to 2015 by vehicles equipped with the defeat device. The majority (87 per cent) of these premature deaths were estimated as due to particulate pollution and the remaining 13 percent as due to ozone (Barrett 2015 & Vaughan 2015).

## **10.0 Consequences and Fines**

VW Group Chief Executive, Martin Winterkorn, accepted responsibility but denied any wrongdoing on his part. He resigned on 23 September 2015 (Ewing, 2015; Farrell, 2015; Moore, 2015 & Woodyard 2015). Matthias Mueller, the former boss of Porsche is the new VW Chief Executive. At the time of Winterkorn's resignation, he was one of the highest-paid chief executives in Europe with total annual remuneration of €16.8 million in 2015. He is entitled to two year's payout of more than €30 million. Since joining VW Group in 1981, he has built up a pension of €30 million.

Under the US Clean Air Act, VW Group now faces \$US18 (£12) billion in penalties and fines up to \$US37,500 per vehicle (BBC 2015; Russell 2015 & Spence 2015).

## **11.0 Discussion and conclusion**

Past research has shown that corporate social responsibility has not been adequately addressed. The VW Group case study is consistent with other researches carried out that found a positive effect on corporate social responsibility (Maignan, Ferrell, & Ferrell 2005; Margolis & Walsh 2003; Maron, 2006 & Wu, Tsai, Cheng, & Lai 2006). The findings of this research make several contributions to the research of corporate social responsibility. A framework is provided by the comparison of the effect of financial performance and its link to corporate social responsibility and the environment. Also, this research is consistent with the finding of Papagiannakis and Liouka (2012). VW Group managers' values, attitudes and perceptions play a significant role in a firm's environmental response. After the scandal, stakeholders concerns

of the environmental have increased. The findings of this research enhance the knowledge regarding the importance of the role of corporate social responsibility and its relation to the environment, as well as brand name and reputation, and customer satisfaction. These findings suggest that there is a direct link between a company's financial performance and a role for corporate social responsibility and the environment, especially in relation to the promotion of a company financial performance that indirectly enhance customer satisfaction and brand/reputation.

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