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The multinational car manufacturer Volkswagen AG was in September 2015 found to have used illegal defeat devices in its diesel vehicles to cheat emissions testing. With the help of the defeat device Volkswagen was able to artificially lower its cars' emissions during emissions testing and therefore sell them on markets with strict emissions regulation. A thorough investigation unveiled that the firm's deception had endured for more than a decade and put the firm in the midst of a major crisis, which threatened the company's legitimacy. Volkswagen reacted to the crisis with an intensive legitimacy management strategy and was able to regain its position as the largest car manufacturer in the world just a few years after the scandal. How is this possible and which legitimacy repairing actions did Volkswagen use in its successful legitimacy management strategy after the crisis? Although Volkswagen is still recovering from the crisis, its initial legitimacy repairing actions and communication can be discovered from the 25 press releases of the firm after the outburst of the crisis. The press releases are analysed with the help of Suchman's legitimacy management framework, which is based on legitimacy theory. Systematic content analysis is used as the method in this qualitative research. The framework makes it possible to discover legitimacy repairing actions in Volkswagens communication and extract content and meanings from them. The main findings of this study are that Volkswagen used a wide variety of different actions to repair its legitimacy. The combination of actions was also more important than individual actions alone. Some of the actions were targeted at individual stakeholder groups and Volkswagen's use of actions developed over time. A concluding discovery of Volkswagen's legitimacy management is that the legitimacy repairing actions were used in collaboration to build a compelling story of Volkswagen's transition to sustainable electric mobility in the future. The aim of the transition was to change the way the company would be interpreted in future by its stakeholders, and thus ultimately repair the company's legitimacy. Finally, this study provides possible future research avenues for legitimacy management of major crisis.

Key words	Volkswagen, emissions scandal, legitimacy theory, corporate legitimacy management, crisis management, press releases, content analysis
Further information	





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<p>Syyskuussa 2015 paljastui, että monikansallinen autonvalmistaja Volkswagen AG oli hyödyntänyt dieselmootoreissaan laittomia järjestelmiä, jotka rajoittivat moottoreiden päästöjä päästötesteissä. Manipuloimalla moottoreidensa päästötestien tuloksia keinotekoisesti pienemmiksi Volkswagen pystyi myymään niitä tiukoista päästörajoituksista huolimatta. Huijauksen paljastumisen jälkeen perusteelliset tutkimukset paljastivat, että yritys oli manipuloinut autojensa päästöjä päästötesteissä yli vuosikymmenen ajan. Paljastukset johtivat vakavaan kriisiin, jossa Volkswagenin legitimiteetti ja toimintaedellytykset olivat uhan alla. Volkswagen reagoi kriisiin intensiivisellä legitimiteetin hallintastrategialla ja vain muutamaa vuotta skandaalin alettua pystyi saavuttamaan takaisin asemansa maailman suurimpana autonvalmistajana. Miten tämä oli mahdollista ja mitä legitimiteettiä korjaavia toimenpiteitä Volkswagen hyödynsi menestyksekkäässä legitimiteetin hallintastrategiassaan? Vaikka Volkswagen edelleen toipuu kriisin jäljiltä, voidaan yrityksen ensivaiheen legitimiteettiä korjaavia toimenpiteitä ja niitä koskevaa viestintää tarkastella yrityksen 25:stä ensimmäisestä lehdistötiedotteesta, jotka julkaistiin kriisin puhkeamisen jälkeen. Lehdistötiedotteet on analysoitu legitimiteettiteoriasta johdetun Suchmanin legitimiteetin hallintaviitekehyksen avulla.</p> <p>Laadullinen tutkimus on toteutettu systemaattisella sisällönanalyysillä. Legitimiteetin korjaustoimenpiteet on tunnistettu Volkswagenin viestinnästä Suchmanin viitekehyksen avulla. Se myös mahdollisti niiden tarkempien sisältöjen ja tarkoitusten analysoimisen. Tämän tutkimuksen tärkeimmät havainnot ovat, että Volkswagen hyödynsi monia erilaisia toimenpiteitä legitimiteetin korjaamiseksi. Lopputuloksen kannalta tärkeämpää oli legitimiteettitoimenpiteiden kokonaisuus, kuin yksittäinen toimenpide. Osa toimenpiteistä oli suunnattu yksittäisille sidosryhmille ja Volkswagenin käyttämät toimenpiteet muuttuivat myös ajan kanssa.</p> <p>Johtopäätös Volkswagenin legitimiteetin hallinnasta on, että Volkswagen hyödynsi legitimiteettiä korjaavia toimenpiteitä kokonaisvaltaisesti, jotta yritys pystyi luomaan vakuuttavan tarinan siirtymisestään kestävään sähköiseen liikkuvuuteen tulevaisuudessa. Muutoksen tavoite oli vaikuttaa Volkswagenin sidosryhmien tulkintaan yrityksestä ja siten lopulta korjata yrityksen kärsinyt legitimiteetti. Lisäksi tämän tutkimuksen lopussa esitetään mahdollisia uusia tutkimuskulmia kriisissä olevien yritysten legitimiteetin hallinnan tutkimiseen.</p>			
Asiasanat	Volkswagen, päästöskaandaali, legitimiteettiteoria, yrityksen legitimiteetin hallinta, kriisinhallinta, lehdistötiedote, sisällönanalyysi		
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**UNIVERSITY
OF TURKU**

Turku School of
Economics

REPAIRING CORPORATE LEGITIMACY AF- TER CRISIS

**A study on Volkswagen's effort to win back trust after emis-
sions scandal**

Master's Thesis
in Economic Geography

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The originality of this thesis has been checked in accordance with the University of Turku quality assurance system using the Turnitin OriginalityCheck service.

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1 INTRODUCTION

The Volkswagen emissions scandal of September 2015 is one of the biggest corporate frauds in the 21st Century. The wrongdoings of the Volkswagen Group¹ (also interchangeably referred to as VW) were exposed over three years ago, but all the details of the scandal and its consequences are still not entirely covered (McGee 2018b). Volkswagen group with its subsidiaries was at the time of the scandal's outbreak the largest automobile producer in the world. It was a company with longstanding traditions and the hallmark of "Made in Germany" quality brands. This makes it an interesting and relevant subject for research.

1.1 Background of the study

As multinational enterprises have stretched their operations from one continent to another and the significance of the nationality of a global firm is fading, the relationship between the firm and its surrounding society is also changing. In this time of fast-paced communication, an analysis on Volkswagen's reaction to the outbreak of the emissions scandal provides new knowledge on crisis management of multinational enterprises faced by both local and global crisis. This also suggest further points of interest, as other car manufacturers have been found guilty of comparable illegal behaviour since the investigations on Volkswagen's diesel engines started in USA in 2015 (Mehrotra & Welch 2017). Ongoing investigations and research will tell, if tricking emissions testing results are a widespread phenomenon in the car manufacturing industry among large multinational legacy car manufacturers. Volkswagen's scandal might then be the first in a row of scandals, investigations and verdicts. Thus, gathering information and conducting research on corporate crisis management in the wake of a possible major crisis in the industry is of outmost importance.

To be able to properly analyse Volkswagen's emissions scandal one must look at the scope of its business and the deeds of the company. From 2010 onward Volkswagen had started a push to become the biggest car manufacturer in the world. In July 2015, immediately before the scandal, Volkswagen took over its nearest competitor Toyota to become number one in the world. (Cremer & Funakoshi 2015.) It produced around 10 Million cars annually (World Ranking of Manufacturers 2015) and strived for further growth with

¹ Volkswagen AG or Volkswagen Group (eng.) not only owns the marque Volkswagen but also a lot of other passenger car marques as Audi, Seat, Skoda, Bugatti, Bentley, Porsche, Lamborghini etc. For the purpose of this study there is no need to separate between the marques and brands, as most Volkswagen owned marques share the same engines and production facilities with each other. Therefore, Volkswagen or VW will be used to describe the parental company Volkswagen Group and all its ownings, including the different car brands. (Volkswagen AG 2019)

a strategy of “clean diesel”, until the American regulators caught the manufacturer for having installed defeat devices in its cars in September 2015 (Hakim et al. 2015).

Volkswagen’s emissions scandal is just one data point in a long row of corporate scandals during the modern era of our industrialised world. Some major scandals have had long-term consequences for the wrong-doer, as the famous Enron scandal, which led to the demise of the whole enterprise (Segal 2018), whereas others have survived their scandals with lesser effects. What are the reasons for this, and can companies impact their survival in crises?

One explanation might be the success of the immediate actions of the firm when faced with a large-scale crisis. Immediate reactions of firms that fall into self-induced reputational crisis often include different sorts of crisis management actions. A prominent and important part of crisis management is crisis communication, which starts directly in the beginning of the crisis (Massey 2001). Such was also the case with Volkswagen in September 2015. As a large multinational firm, it is evident, that Volkswagen had a plan for crisis management before the start of the crisis, even though it wouldn’t have been ready for this particular scandal. Regardless the intent for which the crisis management plan was written it came to use in the aftermath of the scandal.

In the course of writing of this thesis, over three years had passed after the outburst of Volkswagen’s emissions scandal. The scandal has since 2015 matured and the first verdicts on the illegalities of Volkswagen has been given. Even though long-time consequences are still to be seen, the first reactions to the scandal can already be evaluated. The interesting aspect, from a crisis management perspective, is the question on how well Volkswagen handled the crisis. The effectiveness of a firm’s crisis management can be evaluated in many ways. If the success of Volkswagen’s crisis management is analysed through its revenues or sold cars, then the defensive actions set up by Volkswagen have definitely been a success for the company. The firm managed to again climb to the number one position among car manufacturers in 2016, just one year after the crisis (BBC News 2017). It has also achieved material economic success with excellent results with rising revenues and operating profits after the crisis. (McGee 2018a). This sounds counterintuitive after such a heavy reputational burden that Volkswagen has had to carry since 2015. What is the reason behind Volkswagen regaining its position so quickly?

1.2 Research objectives

Volkswagen’s emissions scandal is as multifaceted as it is enduring. The German car manufacturer is at the moment in a very special situation due to the crisis and thus all new research about the scandal would broaden the understanding of what really happened with and within the company after the crisis. It can be analysed in various ways, for example

as an amplifier for financial downturn for the German economy (Georgevski & AlQudah 2016), as an ethical question of the role of a corporation in a society (Rhodes 2016), as an analysis of the death toll of the vehicles' excess emissions (Holland et al. 2016) or as a corporate governance case (Crete 2016). A description on Volkswagen's emissions scandal is presented in chapter 2.

However, my interest to this scandal originates in the contrast between the clear misconduct and the economically very successful recovery of VW. This combination made me ponder how firms can redeem their illicit deeds or ask for forgiveness. One straightforward explanation could for example be to wait for a court ruling, and accept the case solved after the guilty has served its sentence or alternatively paid its fines. This solution does not fit Volkswagen's scandal that well, since the first judiciary verdict came over one and a half years after discovery of the fraud (McGee 2017) and firm and all its stakeholders had not waited in a limbo for the court's decision. Thus, it can be concluded that a reconciliation with stakeholders such as customers and VW is not something that is dictated from a courtroom, but rather something that originates from stakeholder interaction.

I have chosen to study VW's crisis management during the crisis and to find out how it may have affected the company's success for the better. For this purpose, I have used Mark Suchman's (1995) legitimacy management framework as the lenses through which VW's actions to repair its legitimacy are analysed. Legitimacy management is seen as a theory-based method for crisis management and thus the concepts of legitimacy management and crisis management will be used interchangeably in this thesis. Suchman's legitimacy management framework originates in legitimacy theory where it is defined as an organisation's pursuit of justification and acceptance for its existence. Legitimacy management and the action proposals it gives for repairing a firm's legitimacy will be defined in the review of academic literature on legitimacy theory in chapter 3.

I will analyse Volkswagen's press releases in the immediate aftermath of the scandal. These press releases are a part of VW's crisis communication after the emissions scandal and a key tool in the firm's crisis management. As the crisis communication is analysed through the lenses of legitimacy management it is seen to describe the firm's legitimacy repairing actions and communication of these actions. The research is conducted as a desk research on press releases and no actual field research of Volkswagen's crisis management (at production facilities etc.) is conducted. However, Volkswagen's strategic actions and choices for its legitimacy management are described in the firm's communication.

The aim of this thesis is to find out, present, and analyse the various ways in which VW tried to repair its legitimacy, based on the press releases VW released after the scandal and the formulated research questions is: "*How did Volkswagen try to repair its legitimacy after the emissions scandal through crisis communication?*". The analysis of press releases gives a deeper understanding on how the firm reacted to the scandal and how and

what it communicated after the outbreak of the scandal. The study is a qualitative research where systematic content analysis is used as the method of analysis. These methodological choices for the research are found in chapter 4. The classification process for the content analysis and the categories of legitimacy repairing actions with their explanations are presented in chapter 5. To find further evidence on Volkswagen's legitimacy management the firm's actions are also evaluated on a time-perspective and from a stakeholder perspective. Hence, broadening the analysis to whether Volkswagen targeted some of its stakeholders with specific legitimacy repairing actions and whether its legitimacy management strategy develop over time.

Crisis management is well known in academic literature and a lot of research has been published in the field (see e.g. Pearson & Clair 1998; Coombs 2015). Yet, as the academic business research evolves new strategies are crafted and others improved, and the question of what successful crisis management strategies are is still imminent. By analysing Volkswagen's apparently successful crisis management through the lenses of legitimacy management new empiric evidence can be established. By sorting out the legitimacy repairing actions VW used in its crisis communication more insight can be gathered about remarkably effective and successful crisis management. These concluding results and their significance will be discussed in chapter 6.

2 VOLKSWAGEN'S EMISSIONS SCANDAL

The German multinational car manufacturer Volkswagen has in the recent years been in the headlines for its involvement in one of the biggest company frauds in history, as it in September 2015 was found to have used cheat devices and software in its diesel engines to achieve lower emissions results. The cheat device was engineered to drastically change the performance of the engine to improve results during emissions tests. This allowed VW to sell apparently low-emitting cars on markets with strict emissions limits. (Hotten 2015.) The illegal actions of VW clearly overstepped the grey zone of engineering best results for the emissions tests only, as its cars did not even comply with the limits during the test if the cheat device was not activated.

2.1 Background of the emissions scandal

The seeds for Volkswagen's emissions scandal were planted nearly a decade before the outburst of the scandal, when VW set up a plan of gaining a larger share of United States car market. VW had previously been struggling to sell its cars to American customers and needed new solutions that could make its cars more likable. VW choose to invest in the segment of fuel-efficient cars and introduce new car models with fuel-efficient diesel engines to the American market. (Ewing 2017.)

The choice to concentrate on low consuming engines was driven by the steep price increase of gasoline on the US market during the six years that proceeded the financial crisis of 2008, when the gasoline price had increased by over 250 % (Statista 2018). Therefore, VW acquired early success with its new fuel-efficient diesel engines, which were marketed as "clean diesel" and were introduced as environmentally friendly alternatives to its competitors' less fuel-efficient products (Ewing 2017).

As a European car manufacturer VW had much experience of striving for fuel-efficiency, and thus also low carbon dioxide (CO₂) emissions.² The reason for this was the different legislative emissions standards that were in use in the US and in the EU. EU legislation has striven to lower the greenhouse gases emitted by cars on its single market. The mission of the US federal car emissions regulator, Environmental Protection Agency (EPA), is however to protect human health and the environment rather than combating climate change per se. In contrast to the EU rules and standards, which are set to mitigate greenhouse gases as CO₂, the US standards are more calibrated to combat local air quality pollutants as nitrogen oxides (NO_x) and are far less ambitious in regulating CO₂ emis-

² The CO₂ emissions of a car's internal combustion engine mostly go hand in hand with the fuel-efficiency of a car as CO₂ gases are emitted through the combustion of gasoline. (Nesbit et al. 2016)

sions. Consequently, car engines manufactured and designed for the EU market are usually more fuel-efficient and stricter on CO₂ emissions but attach less attention to the local air quality pollutants. (Nesbit et al. 2016, 9–10.)

The opposing regulation between EU and the US is specifically clear for diesel cars, for which up to two times higher levels of air quality pollutants (NO_x) are allowed in the EU than in the US (Table 1), as they are more fuel-efficient than petrol cars. (Nesbit et al. 2016, 15.)

Table 1 Comparison of emissions standards for pollutants in the US and EU
(Nesbit et al. 2016, 15)

Emissions standards for pollutants (g/km)		US	EU
Local air quality pollutants	Nitrogen oxides (NO _x)	0,04	0,06/0,08*
	Non-methane organic gases (NMOG)	0,06	0,07/na*
	Carbon monoxide (CO)	2,61	1,0/0,5*
Greenhouse gases	Carbon Dioxide (CO ₂ , in 2016)	155	130
	Carbon Dioxide (CO ₂ , in 2020)	132	95
Form of vehicle emissions testing		FTP	NEDC
*petrol / diesel standards Federal Test Procedure (FTP) New European Driving Cycle (NEDC)			

EU's standpoint to regulate petrol and diesel differently reflects on historical evolution of the European car market. EU has seen diesel cars as a way for reducing CO₂ emissions and has built the European standards with this in mind. Today about half of all cars in EU are diesel cars whereas only a small minority of the US cars are diesel driven. NO_x emissions are much harder to reduce than the CO₂ gases in diesel cars and therefore they have a looser regulation than petrol cars in the EU. US regulation again are technology neutral between petrol and diesel cars and is more fixated on the local air quality pollutants. (Nesbit et al. 2016, 15.)

2.2 Volkswagen pleads guilty to charges in the US

Much of the details to the diesel scandal have been revealed through the investigations of the US authorities and research institutions since the beginning of the crisis, but when

VW decided to plead guilty and made a plea agreement with US federal court investigating the matter, a clear analysis of the events could be pictured. The following explanation of the diesel scandal is mostly based on the facts reviewed in connection to the sentence VW received by the US federal court on the 21.04.2017. The car company was sentenced on all three accounts it was accused of: 1) conspiracy to defraud the United States, engage in wire fraud, and violate the Clean Air Act; 2) obstruction of justice; and 3) importation of merchandise by means of false statements. (Volkswagen AG Sentenced – – 2017.) The plea for guilty was, however, just the one step in the long legal proceeding against VW in the US and around the world.

In 2006 when VW had its new fuel-efficient diesel engines ready for production the firm knew, that it would not pass the stricter emissions standards of EPA. Managers at VW nevertheless decided to continue with the production of the car and marketed it as an environmentally-friendly “clean diesel” for the US market. At that point, in 2006, it became clear for VW’s engineers that they could not yet design a diesel car that was both fuel-efficient and stayed inside the permitted emissions boundaries. However, as real usage testing was uncommon and expensive for regulators at this time, VW knew that the risk of being caught was quite small. Managers at VW nevertheless decided to continue with the production of the car. What they hoped for was that technological improvement would make it possible to lower the emissions and thus solve the problem in the future. (Ewing 2016; Volkswagen AG Agrees to Plead Guilty – – 2017; Leggett 2017.)

In the meantime, the managers and technicians tasked with bringing the car to the market opted for an illegal fix. Their solution was to design an engine management software, called a “cheat device”, which would notice when the car was being tested and temporarily turn on emissions controls for the car. With the cheat device installed the car automatically detected when it was being tested and switched to a low emissions mode, where the emissions were on a satisfactory level. This would permit the car to pass the required emissions tests, without being too expensive or difficult to produce. A constant usage of the engine management software would, however, have increased stress on the engine and caused hardware failure, so it was designed to only turn on and function during testing. As a result, the vehicles could emit up to 35 times higher levels of NOx than were allowed in the US. (Volkswagen AG Agrees to Plead Guilty – – 2017.)

The use of cheat devices was many times questioned in VW’s internal correspondence by engineers during the years following its introduction in 2006, but the practice was allowed to be continued by senior supervisors. As technological improvements on the motors itself were not feasible, mostly due to the increased cost of physical changes to the motors, the use of the cheat device became a standard at VW. To decrease the possibility of getting caught, improvements were even made to the software, so that it would better detect if the emissions-testing was started. This was done as late as in 2014, by e.g. adding functionalities that could detect the movement of the steering wheel. If the steering

wheel was not turned the software could identify that it was tested for emissions. (Volkswagen AG Agrees to Plead Guilty -- 2017.)

2.3 Outbreak of the scandal on the US market

The discovery of VW's fraud was eventually made by a group of researchers in the US. Environmental researchers had begun to wonder, how diesel vehicles emit less NO_x gases in the US than in Europe. As they were produced by the same manufacturer, the question arose, why the manufacturer did not use same emissions reducing technologies on both continents. (McGee 2017.)

A collaborative research project by an independent non-profit institute, International Council on Clean Transport (ICCT) and the Center for Alternative Fuels, Engines & Emissions (CAFEE) from West Virginia University was started in 2013 (Ewing 2016b). Its aim was "to conduct in-use testing of three light-duty diesel vehicles, using a portable emissions measurement system". The portable emissions measurement system was connected to the car's exhaust pipe and could therefore test the real emissions when the car was driven on the streets and highways. (Thompson et al. 2014, ii.) Regulators as EPA have historically relied on laboratory tests for car emissions and thus such a real-life research of cars emissions could, perhaps, share some novel information of the real emissions emitted during driving (Ewing 2016b).

The researchers conducted their tests on the three cars and found that there was a huge discrepancy between the laboratory tested emissions and the real-world NO_x emissions, which could be up to 35 times higher than permitted, for two of the three cars tested. (Thompson et al. 2014, 106.) Both of those cars were Volkswagen's vehicles. Even though the researchers had discovered that VW's cars continuously under-performed in the real-world testing "they attributed it to technical defects or design flaws rather than to a deliberate" fraud by VW. As the sample was small and the researchers did not believe that they had made a ground-breaking discovery, the research group just ordinarily presented their results at an industry conference in 2014. However, when their research was published, they sent their results to the EPA and to VW for review. (Ewing 2016b.)

The environmental officials at EPA and also at California Air Resources Board (CARB) took the results seriously and started rigorous tests on all VW diesel cars sold in the US. The investigations of EPA and CARB continued for over a year, as they tried to uncover the reason for the discrepancies in the emissions results of VW's cars. As the officials asked for reasons for the too high emissions from VW, the company answered with false explanations and blamed innocent technical problems in the testing. Eventually the regulators achieved solid proof of VW's fraud and announced it publicly 18.09.2015. (McGee 2017.) This publication sets the stage for the emissions crisis, to which

Volkswagen responded with its first press release acknowledging the emissions cheating with a cheat device.

3 SUCHMAN'S LEGITIMACY MANAGEMENT FRAME- WORK

The theoretical framework is the analytical lenses of this research, through which the research problem is evaluated. They give direction and the framework for the analysis of the empirical data which has been gathered for this research. Legitimacy theory and Suchman's legitimacy management framework are chosen as the main theory and framework for this research.

3.1 Legitimacy theory

Early adopters of legitimacy theory as Shocker and Sethi (1973, 97), saw the operation of all social institutions to be bound by a social contract, which assured the institution's survival and growth based on two factors, "the twin test of legitimacy". This social contract could be firmly expressed or only implied, but the organisation would in both cases have to follow it. Firstly on "the delivery of some socially desirable ends to society in general", and secondly on "the distribution of economic, social, or political benefits to groups from which it derives its power". In a transforming and dynamic environment institutions that wish to meet these demands must continuously demonstrate their relevance to the society and acquire the society's approval. Corporations and other organisations are no exception of these social institutions, which are all bound by this social contract.

The classical economic theory suggests that firms in a market economy would pass the legitimacy test by satisfying the market demand. However, flawed market mechanisms, changing public expectations and growing concerns on negative business externalities cannot sufficiently be outweighed by simply answering to market demands. (Shocker & Sethi 1973, 97–98.) The reasoning in the 1970s indicates a change from an earlier position where economic performance and success was simply seen to be rewarded with legitimacy. This change arose from society's rising demands on firms to account for the social issues related to business' operations. For firms this meant a broadened obligation to follow the public policy processes of the society and not only the legal demands on the firm. (Patten 1992, 471–472.)

Maurer defined legitimacy as "the process whereby an organisation justifies to a peer or superordinate system its right to exist" (Maurer 1971, 361, based on Suchman 1991, 573). Hence giving a definition on the legitimation process, which is clearly bound to the legitimacy of an organisation. It does, however, not give a definition on what legitimacy is and how this process is to be executed. Ashforth and Gibbs give a definition on what a legitimate organisation is: "an organisation is perceived legitimate if it pursues socially

accepted goals in a socially accepted manner” (Ashforth & Gibbs 1990, 177, based on Suchman 1991, 573). This definition on a legitimate organisation explains what an organisation has to do to be perceived legitimate: it will have to act according to socially accepted standards and follow socially accepted norms. Yet those definitions fall still short of explaining how an organisation can strive for legitimacy in practice.

Legitimacy has since been defined by many researchers, but one broadly accepted definition on organisational legitimacy that incorporates the role of social audience in the legitimation dynamics is given in the seminal research by Mark Suchman (1995, 574; see e.g. Grolin 1998; Palazzo & Scherer 2006; Erkama & Vaara 2010; Desai 2011; Claasen & Roloff 2012; Carnegie & O’Connell 2012; Dumay et al. 2015).

Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions.

This definition is quite comprehensive, as it includes several defining components on legitimacy. An organisation’s legitimacy is generalised in that it is dependent on the sum of the entity’s performance, thus the organisation can partly deviate from the expected societal norms and still retain its legitimacy if those deviations are perceived as exceptional. The interpretation of an organisation’s legitimacy are perceptions and assumptions, as it represents subjective reactions of an observer. Hence, the organisation may diverge from the societal norms and still maintain its legitimacy if those divergences are unnoticed. While legitimacy represents a congruence between a social group with shared beliefs and the behaviour of an organisation it is also socially constructed. The approval or disapproval of the collective audience is significant for the understanding of an organisation’s legitimacy and thus an organisation can act in contrast to values of individuals as long as it does not conflict with the public interpretation. Therefore, the legitimacy of an organisation is dependent on the pattern of behaviour that is generally perceived and accepted as legitimate by a group of observers. This perception does not have to be accepted by all individuals and the perception can change if the observers were to gain more insight of the organisation’s behaviour. (Suchman 1995, 574.)

There are many reasons for corporations to pursue legitimacy, as legitimacy benefits a firm in many ways. It increases the stability of organisations as people are more likely to support and meet the demands of organisations that are assessed as legitimate. It also adds to the understanding of an organisations comprehensibility as legitimate organisations are seen as more trustworthy, more predictable and more meaningful. (Suchman 1995, 574–575.) Keeping this in mind; illegitimate organisations could hence be considered untrustworthy and irrational in their actions and the necessity of the organisation’s existence could be questioned.

The legitimacy of a firm can be disputed if its actions are in conflict with the perceptions of right and wrong of the society. Such conflict of actions and perceptions are for

example financial scandals, human rights violations, negative environmental externalities (e.g. pollution and waste dumping) and collaboration with repressive regimes (Palazzo and Scherer 2006, 71). These are such problematic aspects that would arise questions about the alignment of the societal needs and the actions of the firm. Depending on the needs of the firm and its situation, it can either strive for legitimacy actively or passively (Suchman 1995, 575), as legitimacy can be seen as a resource. With this legitimacy the firm can guarantee its existence. (Palazzo & Scherer 2006, 72).

3.2 Thematic types of organisational legitimacy

To gain a more thorough understanding of legitimacy Suchman (1995, 577) distinguishes between three thematic types of organisational legitimacy: the pragmatic, moral and cognitive legitimacy. The groups are also interlinked and sometimes overlapping, but each type of legitimacy is based on different behavioural dynamics.

3.2.1 *Pragmatic legitimacy*

Pragmatic legitimacy rests on the calculations of the organisation's self-interested stakeholders and broader audience. This means that the audience examines and evaluates the organisation's behaviour based on the consequences for themselves. Legitimacy will be attributed to organisations which stakeholders perceive to benefit them, either by exchange legitimacy or influence legitimacy. Exchange legitimacy can be as straightforward as a give-and-take exchange between the organisation and its audience, let it be individuals or other organisations. Influence legitimacy is entitled to organisations that represent the broader interests of the audience in some field. A third variant is dispositional legitimacy which is dependent on shared values where legitimacy is attributed to organisations that are assumed to share the same values and act in the best interest of the audience. (Suchman 1995, 578–579.)

These three forms of pragmatic legitimacy all have in common that legitimacy is attributed to organisations because the audience perceive benefiting from the organisation. The organisation may try to accumulate such legitimacy e.g. through incorporating some of the audience's opinions into its own policies or by strategically manipulating the perceptions on the organisation to better align with the one wanted by the constituents. It can also be done through direct payments or benefits to the audience. (Palazzo & Scherer 2006, 72.)

3.2.2 *Moral legitimacy*

Moral legitimacy is a more utilitarian way for evaluating the actions of an organisation. Instead of evaluating the benefits of actions, moral legitimacy comes through the judgement whether the organisation's actions are "the right thing to do" and thus producing socially valued consequences. This judgement is based on the evaluator's socially constructed values and idea of societal welfare and hence more resistant to narrow self-interest and pragmatic consideration (Suchman 1995, 579–580).

Moral legitimacy can be evaluated on four disciplines. Firstly, through evaluations of outputs and consequences of an organisation's accomplishments. The consequences of all actions cannot always be easily determined, because of their impact is spread on a longer time frame or if the outcomes are not easily measurable. The second way, i.e. the procedural legitimacy, is therefore to evaluate the used techniques and procedures of an organisation, thus enabling an organisation to gather moral legitimacy through socially accepted practices. If the organisation's actions are perceived to be valuable the achievements do not even have to be visible. Thirdly, some structural characteristics of organisations can be seen to be valuable in themselves and gain support from an audience. This type of moral legitimacy is described as categorical and structural legitimacy and is much like procedural legitimacy, with the difference that in it the whole organisation is evaluated. Some organisations can be seen to fulfil a function in themselves and are therefore supported. A fourth form is personal legitimacy, where the leaders and representatives of an organisation are evaluated. It rests on the personal charisma of specific leaders and is bound to those individuals. This type of moral legitimacy is not as common as the earlier three forms of moral legitimacy, but still valuable in the observation of an organisation's legitimacy. (Suchman 1995, 581–582.)

3.2.3 *Cognitive legitimacy*

Cognitive legitimacy is clearly distinct from the two earlier mentioned types of legitimacy, i.e. from pragmatic legitimacy which is driven from an interest and from moral legitimacy which is based on an ethical evaluation. Cognitive legitimacy is created on a subconscious level and displayed as comprehensibility or taken-for-grantedness. Legitimacy that comes from comprehensibility will be given to organisations that are understandable and operate based on a culturally accepted model. This means that there have to be an existing understanding of the organisation and its activities amongst the organisation's stakeholders. Such understanding can be acquired through consistency with the wider belief systems and the everyday life of the audience. Cognitive legitimacy which

originates from taken-for-grantedness is described as the most powerful source of legitimacy, as any other option is unthinkable for the stakeholders and audience. Such legitimacy comes from a situation where any other alternative is literally impossible and unthinkable, and the legitimacy of an organisation is therefore untouchable. Such situations are, however, rare and hard to strive for, as society, technology, and culture are constantly in a state of flux in a dynamic market economy and democracy. (Suchman 1995, 582–583.)

3.3 Legitimacy repairing strategies

As pragmatic, moral, and cognitive differ from each other, few organisations strive to fulfil all of them at the same time with the same amount of workload. With the differentiation of the three major types of legitimacy it is possible to distinguish between different legitimisation themes. It comes well in hand when legitimisation operations are analysed as it helps to differentiate the diverse goals of corporate actions. However, it is clear that no organisation can all the time and, in all situations, satisfy all audiences, and thus figuratively step outside the legitimacy evaluation. (Suchman 1995, 585.) Therefore, organisations must make prisonisations between adaption to the distinct legitimacy strategies.

As most cultural processes, the perception of the firm by its stakeholders can be influenced through communication. Well planned and executed communication can help the organisations to make a big difference in the way it is evaluated by the audience as a desirable and appropriate organisation. This communication is, however, not only traditional one-way disclosure, but rather consists of a multitude of different organisational messages, as actions, disclosures and non-verbal displays. A well-managed legitimacy management uses a wide range of different actions and possesses a high level of understanding of the possible legitimisation responses to different situations. (Suchman 1995, 585–586.)

Depending on the organisation's legitimisation needs different strategies can be utilised. An organisation may either need to *gain*, *maintain*, or *repair* its legitimacy. Those three perspectives decide for the actions and techniques the organisation can use when it tries to alter its pragmatic, moral, or cognitive legitimacy. (Suchman 1995, 586.)

Organisations faced with a crisis will need to repair their legitimacy if they have failed to either gain enough legitimacy or maintain their existing legitimacy. As a reactive response repairing legitimacy functions best for crisis management or as a response to an unlikely event, in contrast to gaining or maintaining legitimacy. In the event of a major legitimisation crisis organisations tend to fall into a self-reinforcing loop of fall-backs, which reduces the audience's and allies' support for the organisation. The failure to fulfil the expectations of the wider public or some important stakeholder group can lead to loss

of long-standing allies, because legitimacy is mostly reciprocal and partly shared through networks. The allies will thus alienate themselves from the organisation in question, as they risk a negative contamination. Such actions could inflict considerable harm, if for example an organisation's critical resource flows were to be interrupted to the organisation. (Suchman 1995, 597.) Such critical resource flows are for example customers or new employees to the firm. Therefore, legitimacy is important for all firms. As the goal of all organisations in crisis are to regain their lost legitimacy, this aspect fits best for this thesis. Therefore, only the task of repairing legitimacy will be presented here more closely.

After a major negative incident an organisation will have to address the immediate threat of losing legitimacy through legitimacy repairing actions. After the initial crisis is dealt with the organisation may go back to the other legitimisation activities. In the wake of the crisis it is particularly important to build a wedge between the past action, which is assessed as illegitimate by the audience and the ongoing (better) practices. General propositions for legitimacy management in those situations are to offer normalising accounts, restructure, and to avoid panic. The motive with the offering of a normalising account is to separate the legitimacy breach from the larger evaluation of the organisation's legitimacy. There is a grave danger in not reacting to a threatening revelation, as audiences will begin to suspect all other activities of the firm and even turn against its desirable outputs. (Suchman 1995, 597–598.) The actions should both be straightforward and effective yet also sensitive to the audiences' reactions (Suchman 1995, 599). The proposition not to panic should be interpreted as a general rule not to make too swift actions by e.g. making large restructurings in the firm without understanding the situation well enough. Too sudden and unplanned changes that are soon reversed would further reduce the trust on the firm's actions. Table 2 summarises the legitimacy management framework for repairing legitimacy. It is a combination of the three distinctive thematic types of legitimacy combined with corresponding managerial actions that help an organisation to repair legitimacy (Suchman 1995, 600). The actions are meant to be responses to the three different legitimacy aspects and are grouped based on how well they respond to them.

Table 2 The legitimacy management framework (based on Suchman 1995, 600)

<i>Legitimacy management framework</i>	
<i>Themes</i>	<i>Actions</i>
Pragmatic legitimacy	Deny
	Create monitors
Moral legitimacy	Excuse
	Justify
	Replace personnel
	Revise practices
Cognitive legitimacy	Reconfigure
	Explain

Pragmatic legitimacy, which is mostly based on the audience's self-interest, is combined with the acts of *denial* and *creating monitors*. As stakeholders base their assessment of the organisation's actions on a utility calculation a blunt denial of any wrongdoing may go unnoticed if there are pragmatic reasons for this. The same applies to the creation of monitors. A firm can invite a monitor or a watchdog, i.e. the organisation can call for new public regulation or call for an ombudsperson to oversee the correction of any faults. Those actions would perhaps not repair legitimacy immediately, but on a pragmatic level it might persuade some audiences that they can safely return to normal relations. (Pfeffer 1981, based on Suchman 1995, 598.)

Moral legitimacy management requires more utilitarian responses to crisis, such as *excusing*, *justifying*, *replacing personnel*, *revising practices* or *reconfiguring*. A firm may excuse for their actions and hope for forgiveness, at least on a personal level from its stakeholders if not on a legislative level. The excuse can, however, also be a way of questioning the organisation's responsibility by blaming individual employees or practices without taking the whole blame on the organisation itself. A firm may also try to justify its past actions by reverting the purpose of the firm in retrospect. Thus, it could easier appear constant with the stakeholder's moral beliefs. The three other actions are meant to disassociate the firm from the disruptive incident. By replacing the guilty employees or executives it can try continuing from a clean slate and communicate a wish for change. The same applies to revising non-desired practices and reconfiguring business operations. Such strategic restructuring can extend to closure of dubious operations or geographic locations. (Suchman 1995, 598.) As a way to regain some cognitive legitimacy the managers can try to merely *explain* the event so that the firm can preserve at least some of its support. (Suchman 1995, 598.)

3.4 Empirical applications of legitimacy management framework

Suchman's legitimacy management framework has been described as the point of reference for legitimacy management in literature (Claasen & Roloff 2012) and it is widely used in studies analysing different sorts of crisis management situations. To understand the broad variety of research, for which Suchman's framework has been used a few interesting examples are presented.

One example of research based on Suchman's (1995) legitimacy management action typology is a historical case study. The study examines how two Australian professional accounting bodies responded to a financial, corporate, and regulatory crisis in the 1960s. The study is conducted on historical evidence in the form of minutes from conferences held by the bodies to discuss and defend the accounting profession's legitimacy. It examines which key thematical forms of legitimacy were focused on and which actions used to defend the accounting bodies' legitimacy. The study established pragmatic legitimacy to have been in key focus of attention whereas moral and cognitive legitimacy were less significant. (Carnegie & O'Connell 2012)

Another case study conducted by Claasen and Roloff (2012) aims to fill a research gap regarding the question whether corporate social responsibility (CSR) practices contributes to organisational legitimacy. By analysing stakeholder interviews with the help of Suchman's (1995) cognitive, pragmatic and moral legitimacy management typology, they concluded that moral legitimacy was more relevant than cognitive and pragmatic legitimacy for the overall legitimacy of a company. Thus, the authors call for more comparable studies to be able to quantify the relative importance of the three thematical aspects of legitimacy management presented by Suchman (1995), as no earlier research had predicted this particular difference. (Claasen & Roloff 2012.)

Researchers Dumay, Frost, and Beck (2015) have elaborated the framework by developing a model of legitimacy management where Suchman's (1995) institutional and strategic perspectives of legitimacy are combined into "material legitimacy". In the case study, the researchers analyse two organisations' disclosures of non-financial information. The presented new form of legitimacy would enable organisations to align the organisation's (strategic legitimacy) and its stakeholders' (institutional legitimacy) concerns together. (Dumay et al. 2015.)

Suchman's (1995) framework on legitimacy management has also been criticised by researchers. Results from a longitudinal qualitative study on large-scale changes in public-sector health care show that after an optimum level of legitimacy has been achieved further focus on legitimacy management may lead to mismanagement of stakeholders. Another key finding is that the need and sort of legitimacy management actions of an organisation can change with time. The research was conducted as a content analysis of

annual reports from health institutions, government documents, and newspaper accounts to get insight of the studied time period. (Sonpar et al. 2010.)

The findings of Baumann-Pauly, Scherer and Palazzo (2016) draw attention to a dilemma or paradox in Suchman's (1995) framework on legitimacy management. When corporations strive to repair their legitimacy, the actions might satisfy one stakeholder group's demands but simultaneously violate another's. Their research shows, that successful legitimacy management requires corporations to internally coordinate their crisis response strategies to various stakeholder groups. Corporations also communicate differently to various types of stakeholders. (Baumann-Pauly et al. 2016.)

As these recent examples of research show, the legitimacy management framework can be used for a wide variety of types of research in many fields of science. The researches often deal with crisis and their management in different ways and their methodological choices are comparable with this research. As such, Suchman's legitimacy management framework can also be regarded as suitable for this research. It is also noteworthy that earlier research has found Suchman's framework lacking in some aspects or the researchers have elaborated the framework further. This means that although Suchman's approach is commonly applied it can still be further developed and improved.

4 RESEARCH METHODOLOGY

The purpose of the research was to study Volkswagen's crisis management after the emergence of the emissions crisis through its crisis communication and to gain deeper understanding on how legitimacy management was used to repair legitimacy after a serious crisis that threatened the car manufacturer's core business. For deeper understanding of how organisations may repair their legitimacy this study concentrates on analysing the different actions for repairing legitimacy which are found in the research data consisting of Volkswagen's press releases. The theoretical framework gives the basis for interpretation of the data and in the creation of the analysis. This chapter clarifies the methodological choices made prior and during the research process and the reasoning behind them.

The research setting of this real-life event, from where the goal is to acquire as comprehensive and objective understanding as possible calls for a qualitative research approach combined with systematic content analysis as research method, which will hence be used in this study for the analysis and interpretation (see e.g. Hirsjärvi et al. 1997, 157; Corbin & Strauss 2008, 12–13; Tuomi & Sarajärvi 2002, 105). These decisions will affect, among other things, the type of empirical data usage, the ways the data can be analysed, the rules on how the data can be interpreted and even the ways in which the conclusions can be presented in the following sections. (Eriksson & Kovalainen 2008, 6, 11–12).

4.1 Using press releases as research data

The research setting of this study required that the research data overlapped with the outbreak moment of the emissions scandal. It was also important that the source for the data was closely connected to the company, so that the data was not influenced by other actors than Volkswagen. Therefore, the empirical data for this research was collected from Volkswagen's web pages and consists of press releases released by the company immediately after the scandal. The choice to use existing empirical data released by VW as the thesis' primary data was natural, as the research problem required material that could best describe the actions, thoughts and words of the company itself, without outside interference. The research question in itself commanded for data, where the company itself was the producer of the data. Hence, company press releases can be seen as a most relevant source of data for this research. (Koskinen et al. 2005, 131; Saranen-Kauppinen & Puusniikka 2006; Eriksson & Kovalainen 2008, 77–78.) Another option would have been to conduct extensive interviews with the executives involved in the scandal, but that was at the time of writing and in this scope of the research not viable. Furthermore,

Volkswagen failed to answer to any email sent to the communication representatives of the company early on during the research process.

Press releases are public information statements, written and released voluntarily by companies, with the aim to inform the public of something important for the firm. They represent the firm's subjective view and are written by experienced communication experts with the goal to create a comprehensive and understandable picture of the firm's internal and external situation and support the broader message Volkswagen wanted to share. They are aimed for the general public, including investors, customers, public officials, but also employees and other stakeholders. (Investopedia Press Releases 2018.) The press releases published by VW provide an informative and compact view on the information VW released during the crisis. (Koskinen et al. 2005, 131). Press releases work as adequate primary sources for information especially when analysing official policies and arguments. (Eriksson & Kovalainen 2018, 131). Although not as strictly regulated as quarterly earnings reports or annual reports³ of firms, publicly traded companies have certain requirements to publish material information in their press releases. They are for example not allowed to disclose false information or mislead the public and must publish information that would have significant impact on the result of the firm. (Markkinoiden väärinkäyttöaseusta koskevat ohjeet 2016, 5; SEC Disclosure Laws and Regulations 2018; Transparency requirements for listed companies 2018.) Keeping in mind the purpose and context for which the press releases were produced and the legislative requirements they can be evaluated appropriate for this study (Saranen-Kauppinen & Puusniekka 2006).

The collected data consists of 24 press releases and one transcription of the CEO's speech, which was published on the same page as the press releases and will be treated alongside the press releases and referred to as one of them. All of the documents were published by VW on its global homepage and can be found from the Volkswagen Newsroom sub-page (www.volkswagen-newsroom.com/en). VW has gathered all its press releases to the same page and lists them chronologically and thematically. To systematically gather the press releases concerning the emissions scandal the page offers a search engine that finds thematically marked press releases. By combining a timeframe (search start day set to the beginning of the scandal) and various word combinations, as "diesel issue" or "emissions crisis" all press releases about the emissions scandal could be gathered. No other than press releases that were related to the emissions scandal were included in the data sample. A comprehensive list of the used search terms can be found in Appendix 1.

Only English press releases were presented on the global page of VW, but a similar search procedure on the German pages of VW gained the same result. A comparison of a few of the press releases in German showed that the press releases on the global page

³ No quarterly earnings reports nor annual reports were included in the research data, as they did not fit into the chosen timeframe for the gathering of the data.

were either word-for-word translations or originals. It is most likely that even though the firm has its corporate main office in Germany all press releases regarding the emissions scandal were publicised in both languages. Thus, it can be concluded that to a high certainty the first 25 press releases about on the emissions scandal are all included in the research data.

The date range for the collected documents was not decided before the coding of the documents was started. The emissions issue has a clear starting point in the first press release concerning the scandal by VW on the 20.09.2015, but no clear end point can be given, especially as the scandal is still going on, with the latest “diesel issue” marked press release publicised on 16.10.2018 (VW press release 2018). As a highly dynamic situation the “end” of the crisis was thus hard to define, as new evidence of the scandal was found all the time, which always triggered new responses from VW. However, as the aim is to analyse how VW tried to repair legitimacy in the wake of the crisis a quite short time frame was set. Even though a definitive end point for a crisis cannot be defined, it is clear that as a phenomenon crisis eases with time and if the firm survives the crisis, it moves to a new state of normal. After initial analyses of 22 press releases three more were added to the data set, to add further important material. This brought the overall number of press releases to 25 and also added some of the first results of Volkswagen’s internal investigation’s results to the analysed data. The last three press releases were quite significant, with titles: “CO2 issue largely concluded” (09.12.2015), “Volkswagen making good progress with its investigation, technical solutions and Group realignment” (10.12.2015), and “NOx issue: customers are being informed, implementation is starting” (16.12.2015). That extended the timeline of the gathered data from the 20. September to the end of December and thus spanning a timeframe of approximately one quarter of a year.

As earlier mentioned, the scandal is still ongoing, and the end of 2015 was actually not even the beginning of the end for the events of the scandal per se, but it can nevertheless be used as end point for the analysis. In hindsight the crisis can be seen to have moved to a new phase after this, which also changed Volkswagen’s communication pattern. Figure 1 shows a clear decrease of press releases from September to December. However, the decrease is even more steep, when taking into account that the first month of the crisis (September) only consisted of 10 days of actual crisis as the first press release was published on the 20.09.2015. Hence, when comparing the frequency of the press releases during the timeline of the crisis the statistic shows that on average in September one press releases was sent out per day, and in December only one every ten days.

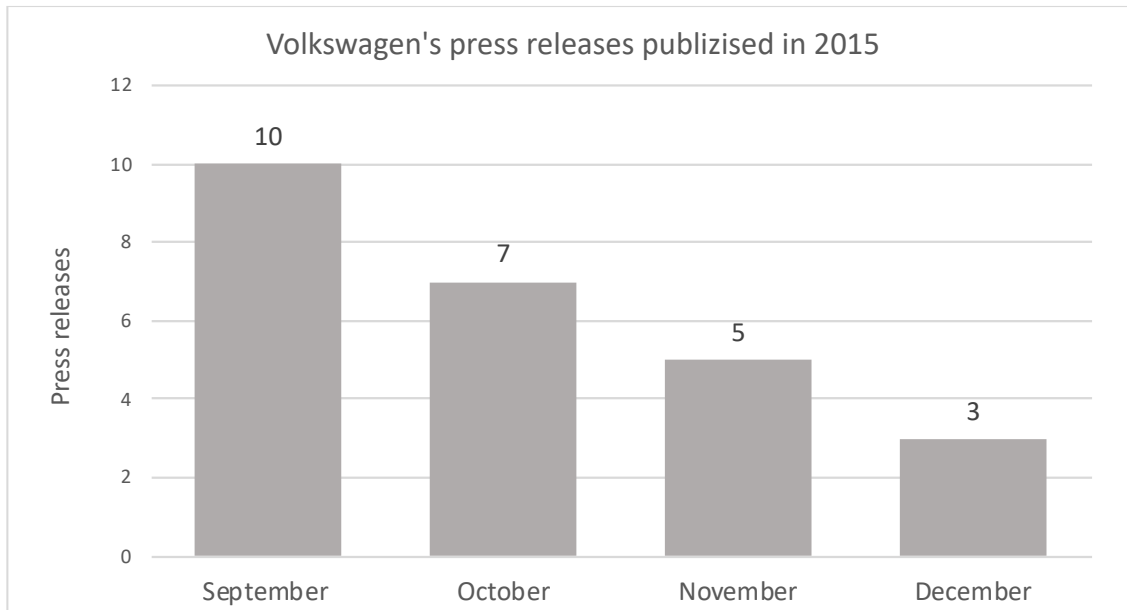


Figure 1 Time distribution of sample press releases 2015

The shortest of the press releases was less than a half page long and the longest five pages long, with most of the press releases ranging between one and two pages in length. The texts are written in plain text, without any pictures or tables, including VW's opinions and direct quotations from its representatives. An example of a press release can be found in Appendix 2.

4.2 Data analysis on Volkswagen's press releases

In considering the best way to process and analyse the gathered data *qualitative content analysis* was found to be the most appropriate method of research. Content analysis gives the researcher tools to analyse and find meanings from a large set of data, by categorising, combing and abstracting the textual data. (Tuomi & Sarajärvi 2002, 105.) It works well with the chosen data sample, as the press releases cover a wide variety of topics, during a specific timeframe. Finding and defining categories makes the data more understandable and easier to categorise.

4.2.1 Systematic content analysis as research method

Qualitative content analysis can be conducted in many ways. It can either be theory driven, content driven or then it can be a combination of those. In this thesis, content classification is primarily based on the analysis framework presented in the theoretical

framework, although during the analysis new classifications were discovered and therefore added to the classification. A mix of theory and data-based classification gives more flexibility to find the most appropriate explanations to the discovered phenomena, as the theory can be supplemented with novel and important aspects from the data. This *systematic content analysis* based on theory and data gives the possibility to present the results of the analysis as quantitative statistic as well as verbally, as concepts. The systematic content analysis also dictates that the classification system is built based on the interaction of the theory and the data. (Seitamaa-Hakkarainen 2018.) Figure 2 presents the possible approaches for qualitative content analysis.

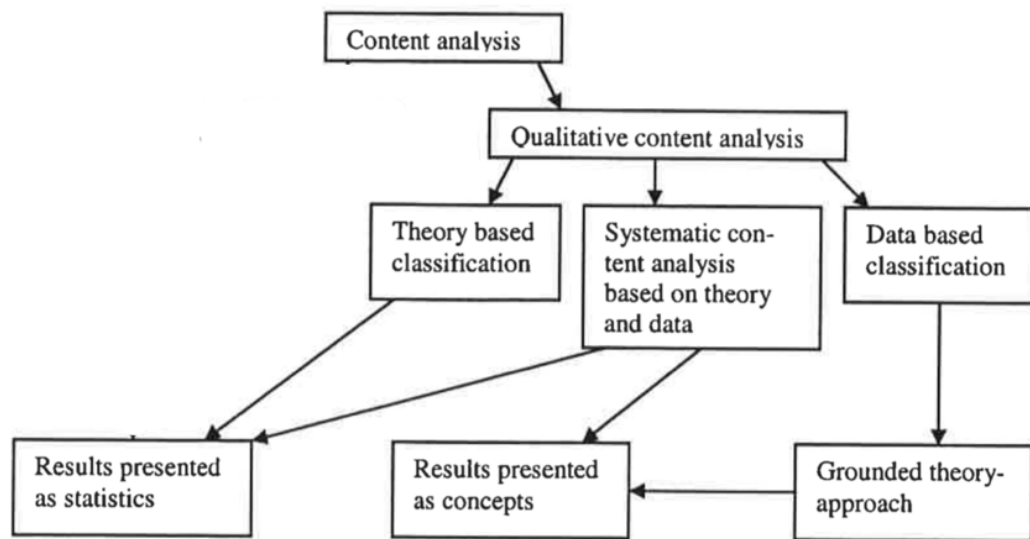


Figure 2 Qualitative content analysis approaches (based on Seitamaa-Hakkarainen 2018)

The qualitative approach chosen also supports the decision to analyse the meaning of the content in the data, yet simultaneously giving the chance to present the results as statistics (Tuomi & Sarajärvi 2002, 105). The use of systematic content analysis as the research method is well fit for the purpose of this research, as the theory gives the frame for the classification and coding, which is then updated based on the found phenomena. As a result, the classification system is built through the interaction of theory and content.

By compressing the data, the analysis can bring clarity to its interpretation, however without losing any important information. At the same time the goal is to create new knowledge. (Eskola & Suoranta 1998, 138–140.) Therefore, the aim is to produce concise descriptions on the phenomenon's content that would connect the findings to the broader theoretical context that has been found in research. This means that VW's effort to repair legitimacy should be attached to the larger body of legitimacy management research. As such the choice to use content analysis as the analysis method is suitable, as it has been

previously successfully used together with Suchman's (1995) legitimacy management framework (see e.g. Sonpar et al. 2010).

4.2.2 *Conducting a systematic content analysis*

For use of systematic content analysis, a four-step procedure has to be conducted: (1) transforming data into text form, (2) developing a classification system and outlining a classification structure, (3) defining the analysis unit and segmentation of data, and (4) coding and reporting the data. (Seitamaa-Hakkarainen 2018).

As content analysis can be used to analyse different forms of data, as pictures, sound or text it is important to transform the data into a form that can be analysed. A common approach is for example to gather material as interviews, which are then transcribed to text format for analysis. The data sample of press releases gathered for this research was conveniently already in text format. Furthermore, all of the press releases were seen as individual documents and were dealt with as discrete data.

When developing the classification system, the codes and their classification guidelines for the analysis had to be decided on. To be able to code individual content into classes the guidelines were combined with the classification system. Based on the guidelines the data was then coded depending on its content into suitable classification categories. The base for this second step comes from the theoretical framework and research question, as they define how the data is classified. However, the creation of a classification system requires thorough knowledge of data sample that shall be analysed, and it can change based on the content of the data. Therefore, the development of a classification system can be seen as a hermeneutic circle, where the classification system is all the time developed by specifying some of the classes, erasing others and even changing the meaning of some classes based on the coding process. (Seitamaa-Hakkarainen 2018.) During the coding process a memo was written to document the changes to the classification system, as it was developed throughout the whole coding process. The memo helped in summarising the important decision made in the classification.

The initial classification system (Table 2), presented in chapter 3, was built based on the theoretical framework concerning legitimacy management actions and complemented during the data analysis. The theoretical framework also guided the author in the classification of new codes under the pragmatic legitimacy, moral legitimacy and cognitive legitimacy themes, as new categories were discovered. The final classification system and its classification guidelines (Table 3) can be seen in section 4.2.3.

The third required step is to define an analysis unit and the segmentation of data. This is important, so that the relevant content can be handled in the same way. For this purpose,

everything from e.g. words, thoughts, sentences, themes or actions can be defined as analysis units. (Seitamaa-Hakkarainen 2018.) As the data consists of individual press releases, they could easily have been defined as analysis units. However, as each press release may contain a lot more than one topic it was better to define smaller entities as units of analysis. As in all analysis of language and text with rich information, it is important to take into account that single sentences may have as important meanings as whole paragraphs. Thus, the analysis unit is defined as such a combination of words that bears a distinct clear meaning for which a code can be assigned. That would include everything from single words to longer paragraphs that alone form an entity.

4.2.3 Coding and reporting in content analysis

All the earlier steps are part of the last phase of systematic content analysis. The activity of coding and reporting the data includes two parts. Firstly, specifying individual analysis units from the data and labelling them (coding) with a code (reference) from the classification system and secondly writing interpretations on the specific content (unit of analysis) and on the whole group of similarly coded content (categories). (Seitamaa-Hakkarainen 2018.)

When coding, content with similar qualities or attributes are labelled with the same code into categories, and content with different qualities and attributes into different categories. This is done by comparison of analysis units. With the help of the classification guidelines the coding stays systematic and larger entities of similar content are created under specific categories. (Seitamaa-Hakkarainen 2018.)

Coding can, however, also lead to the creation of new codes to the classification system. This is a vital part of systematic content analysis as the content is not only seen through the theoretical framework, and coded with pre-defined codes, but the content can also steer the researcher in his choices. By identifying similar units of content that build a trend, new categories can be created to include these findings. Thus, the classification system is all the time incrementally corrected and reworked during the coding process. (Tuomi & Sarajärvi 2002, 117–118.) This highlights also one advantage of content analysis – new codes could be added to be included to the classification system when a need for that aroused, and by so sharpen the analysis of the data.

Table 3 presents the final classification guidelines for categorisation of the analysis units. The categories (e.g. “deny” or “excuse”) are presented on their own rows with all of the meanings of the coded content that were coded into each category next to them.

Table 3 Final classification system of content analysis

Category/ Code	Classification guidelines
<i>Pragmatic legitimacy</i>	
Deny	New vehicles comply with legal requirements and environmental standards/are not affected The defeat device and cheat software does not affect handling, consumption or emissions. CEO: ...I am not aware of any wrong doing on my part. All vehicles are and remain technically safe and roadworthy. At no time was the safety of our customers compromised.
Create monitors	Cooperation with relevant authorities Put employees at stage Submit voluntarily a complaint to the State Prosecutor, for criminal proceedings. Set up special committee for investigation. Commission outside lawyers for an objective investigation.
Inform customers	Inform customers that their vehicles will be repaired Keep customers informed. Inform customers about the measures for their vehicles. Ensure customers that no cost will come upon them. Focus on customer friendliness
<i>Moral legitimacy</i>	
Excuse	Apology to customers, authorities, investors, employees and the general public. There is absolutely no excuse for the manipulations Ask for a chance to make amends.
Justify	-
Replace personnel	CEO takes responsibility and resigns. Appointment of new CEO New Chairman of the Supervisory Board. Appoint new top executives at brands and departments. Changes in Supervisory Board, Board of Management and Executive Committee. Suspension of managers and employees. Personnel responsible for misconduct must face severe consequences. A new team is in place to face the challenges.
Revise practices	New management model planned. More freedom for the Board to decide on Group strategy, development and steering. Realignment of Group's culture and management behaviour. Changes to communication and handling of mistakes. Changes to company culture and focus for employees. Introduce 4-eyes principle and monitoring of employees. Sharpen responsibilities. Introduce external and independent emissions testing. Reduce CEO reports
Reconfigure	New organization structure to strengthen brands and regions accountability and independence.

	<p>New management structure with four regions. Give Group Board of Management more power for strategy and steering. Reorganization of activities in North America Align management structure with modular toolkits. Standardization, harmonization and streamlining of production processes, structures and corporate bodies. Scale back complexity of product range. Critical review of all planned investments. Intensify efficiency program. Make massive savings. Reorientation of diesel strategy. Introduce a modular electric toolkit for all-electric cars Introduce electric Phaeton Introduce new strategy</p>
Affirmation	<p>We do not tolerate violations of internal rules or of the law. The trust of our customers and the public is our most important asset. We will do everything that must be done to re-establish trust and reverse damage. Volkswagen is working full speed to clarify and eliminate irregularities concerning diesel engines. We will do everything with the greatest possible openness and transparency. I am shocked by the events and that it was possible in the Volkswagen Group. The company will call those responsible to account and take the necessary actions. We will develop the most stringent compliance and governance standards in our industry. “We will overcome this crisis” For Wolfsburg, that means production can continue. The efficiency program will be intensified. To be frank: this will not be a painless process. A digitalization and electrification offensive are being prepared.</p>
<i>Cognitive legitimacy</i>	
Explain	<p>Individualize affected vehicle models Present available information of the incident Inform markets and customers of affected vehicles. Inform the public on the progression of the incident’s investigation and findings. Explain reason for the misconduct.</p>
Technical solutions	<p>Present corrective measures for affected vehicles.</p>

It should be possible to categorise all coded content into the right category with the help of the classification guidelines. However, all coded content is not presented in the table as own sentences, as they were either identical or then similar enough to be easily recognisable to belong to one of the categories based on the guidelines. Much thought was put to the best representation and inclusion of the content so that the guideline would be as comprehensive as possible. The classification has its base in the eight categories of the

initial classification system (Table 2) but has been expanded with three novel categories found through the analysis. The new categories found were “Inform customers”, “Affirmation”, and “Technical solutions”. The meaning and content of each category will be further explained in the following analysis chapter 5.

The reporting is performed as interpretations of the data. The observations from the data cannot, in themselves, be seen as research results, but through the combination with the theoretical framework it is possible to reach the phenomena that is studied and give it some explanations. In content analysis, the synthesis and the analysis are combined: the data is divided into single units of analysis, which are then combined into scientific results. (Alasuutari 1999, 78–82.)

Most of the reporting is performed as qualitative explanations of the themes of content found throughout the coding. Examples from descriptive pieces of text are used extensively to explain, disclose, and frame findings and to make the Volkswagen’s communication easier to relate to. Statistical information, as frequencies of findings are also presented. Quantifying the findings helps to better present the results, as the data from the press releases is quite rich and diverse. The coding of the data is done with the help of a computer software, i.e. the program NVivo. NVivo is a purpose-built software for qualitative research, which made it easy for the researcher to store and organise large samples of data on the platform and also gave tools for categorising and analysing findings. Further quantitative analysis was made with the program Microsoft Excel, by creating figures and tables of the findings. (Seitamaa-Hakkarainen 2018.)

Neither the relative shares of the thematic legitimacy management actions nor the shares of the categorical actions can simply be presented as sufficient proof of significance among Volkswagen’s crisis management actions, as a more content and meaning based analysis is required. It is vital to keep in mind that the core of qualitative content analysis is in the content and not in just occurrences of the categories. This becomes clear, when reviewing the coded content: some of the findings were short, one-line sentences as others could be whole paragraphs, with much more vivid meanings. In frequency listings both codes were still listed as one instance. A further analysis on e.g. the word or letter count of the codes would, however, not bring much information when analysing the actions of Volkswagen in its communication. Again, this does not mean that quantitative analyses should not be performed on a rich data. It only emphasises the need to pay attention to the qualitative findings and strive to qualify the findings found.

Figure 3 illustrates the coding process of a sample press release. On the left-hand side of the figure the content of one press release can be seen. The yellow highlight indicates content that has been identified to belong to one of the defined categories and has thus been coded. On the right-hand side, running vertically along the page are the categories to which the data has been coded. Each of the colours indicate an individual category and each line an individual code.

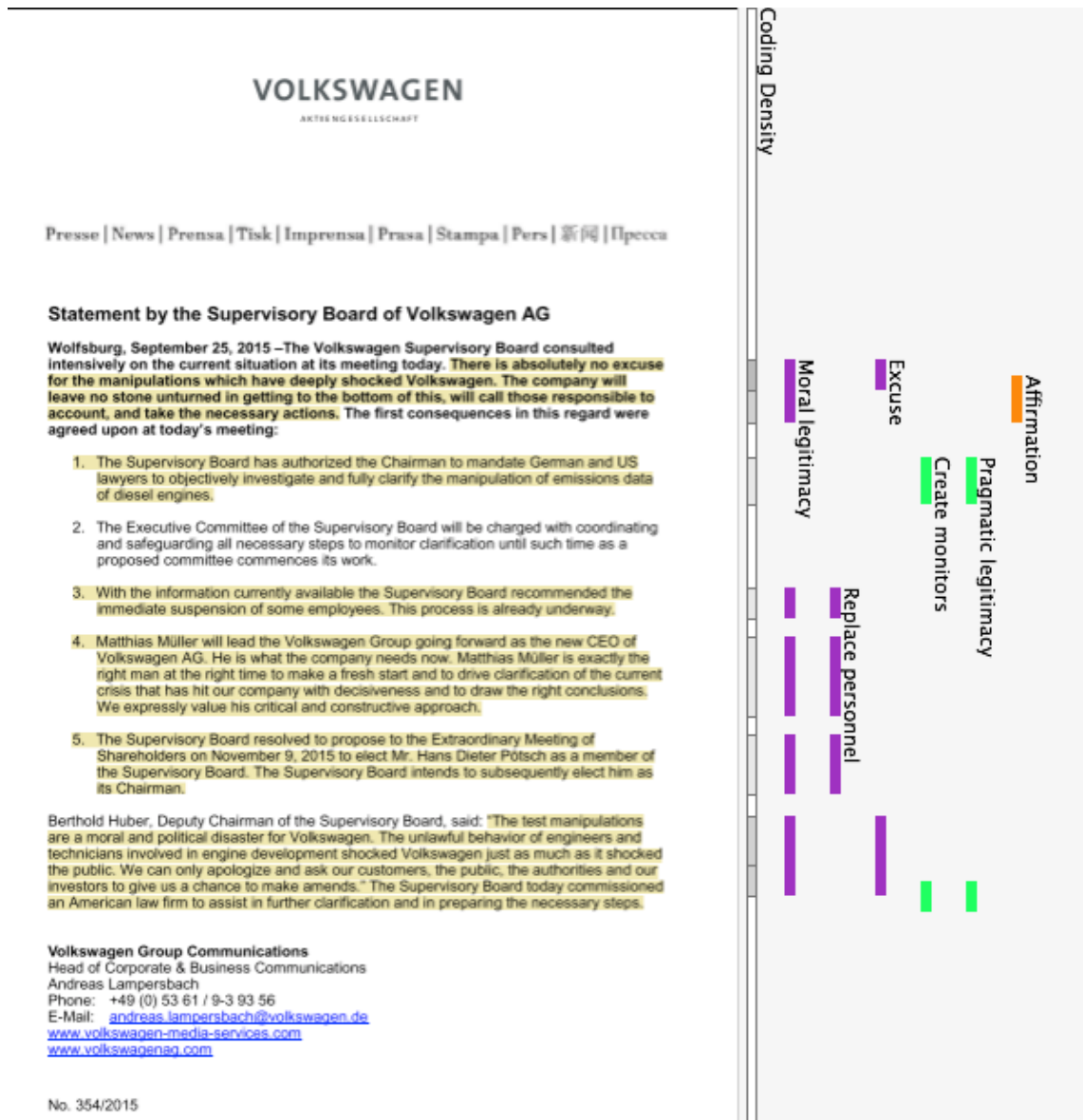


Figure 3 Illustration of sample press release coding

For quotation of the data a naming practice was set up. All documents were assigned a chronologically set number (1–25) and all coded content was divided into the classification system's categories. The content of all categories can be found categorically in Appendix 3 in the order of the press release's appearance. For sake of clarity the coded content is referred to with a code that consists of the document's number and the order of the content under each category. For example, the third unit of analysis coded with the label "excuse" from the second press release would have the code (3:2). As such the quotations will include many references with the same number, but as all quotations are presented connected with their category this coding procedure was chosen as the clearest and easiest way to refer to the coded content.

4.3 Establishing trustworthiness of the study

It is clear that all scientific writings require a level of trustworthiness. If the research fails to establish a minimum level of trustworthiness, it cannot be seen to prove its conclusions and results and falls into the definition of subjective opinions. Thus, ensuring a sufficient level of quality and trustworthiness in one's research results must be seen as a key feature for all research.

Many concepts have been defined to establish the trustworthiness of research. The basic concepts or criteria for such an evaluation are validity and reliability, which are especially used among quantitative research. However, due to this research's approach, setting other criteria more suitable for this research has been chosen instead. The concepts of *dependability*, *transferability*, *credibility* and *conformability* are aspects that can ensure trustworthiness of a qualitative study. (Eriksson & Kovalainen 2018, 294.)

Dependability refers to the need for the process of research to be "logical, traceable and documented" (Eriksson & Kovalainen 2018, 294). This has, indeed, been kept in mind in describing all phases of the research in a detailed manner, and especially when the data analysis of the press releases was presented. This feature was further enhanced by the researcher, when a memo was written during the coding process of the data, to best ensure sufficient note-taking of the process.

The concept of transferability means that the research is tied to earlier research and builds on its foundations (Eriksson & Kovalainen 2018, 294). In this research transferability can be witnessed in the theoretical framework, that is based on a sound theoretical background. It also gives examples of research with similar research settings and thus builds on its foundation. The methodological choices utilised in this research are also not uncommon and have been justified in many occasions, which increases the generalisability of the research results of this thesis.

When evaluating the credibility of a research a few questions would have to be asked. Can the gathered data adequately merit the claims of the researcher? Have strong enough linkages been made between the observations and the categories? Based on the same set of data, could another researcher come to similar results or agree to the findings of this study? (Eriksson & Kovalainen 2018, 294.) The sample of 25 press releases used as the data in this research can be seen to well live up to the task. All press releases of the topic were gathered from the chosen timeframe seen as suitable for a research setting dealing with crisis management. Thus, the coverage of the data can be seen as sufficient. Furthermore, the over 200 coded references provided the researcher with adequate data points for the analysis and conclusions and a data saturation, where repetitive phenomena were achieved. The linkages between the observations and categories have been exemplified with numerous quotations from the press releases and further elaborated by the researcher with descriptive language in the analysis.

The repeatability and acceptability of the research is dependent on many factors. Firstly, the outcomes of the analysis are much dependent on the final classification system (Table 3), which would guide any attempts to recreate the study. Hence, its planning and base in the chosen theoretical framework is important. Secondly the systematic processing of the data and the coding has to be precise and even pedant. To ensure a high standard in the coding, the computer program NVivo was utilised. Thirdly, presenting the argumentation which lies behind the classification and the analysis gives a reader a clearer picture of how the conclusions were drawn. And lastly, a list of all gathered press releases is provided combined with a printout of the coded content in the Appendixes. All this would provide for a thorough familiarisation of the research and even for a replication.

However, one cannot argue that this qualitative research and its results would be wholly replicable, even though another researcher would have use of exactly the same theoretical framework and set of data. A researcher's interpretations are always, to some extent, dependent on fundamental factors that cannot be made equal, and thus the interpretations of the results could, to a varying degree, differ from one another.

And lastly conformability, which means the researcher's obligation to use data and make interpretations objectively without inflicting the process based on the researchers own perspectives or motivations (Eriksson & Kovalainen 2018, 294). As such the author has striven for as much neutrality as possible during the research process and described the research process in detail to transparently present the made research choices.

5 VOLKSWAGEN'S ACTIONS TO REPAIR LEGITIMACY

The coding of the data plays a crucial role when answering the research question on how Volkswagen tried to repair its legitimacy after the emissions scandal. A rigorous classification process was conducted to be able to reliably find answers from the data. The findings could then be presented as frequencies and as qualitative results.

5.1 Classification process

The first step to achieve a systematic coding was to read through the press releases. Then, based on the initial classification system (Table 2) outlined in the theoretical framework codes were assigned to the content. Early on during the coding a lot of significant content was identified, that did not fit into the initial classification system. To fix this all the extra material was gathered into an “extra” category that did not yet have a selected name. After having analysed a few documents a trend could be recognised among the extra codes and thus the classification system was developed further by adding new categories. Simultaneously, explanations on the identified codes were written, so that a systematic coding would be easier to maintain. This classification system and the classification guidelines are presented in Table 3. As a hermeneutic spiral the classification system grew more specific when more data was analysed, and more common patterns were identified. After the first round of analysing and coding, all of the coupled codes were reread and some content was recoded into new codes or erased altogether, if they did not fit into the classification.

When writing this section and reviewing the coded content for a last time, some coded content was still transferred, for example to make the division between “review practices” and “reconfigure” clear. Thus, a few references were recoded. “Scaling back complexity in Volkswagen” was re-coded to reconfiguration instead of review practices, as it internally contains a structural reform, not just a change in behaviour, and thus fits better to that category.

A lot of thought was given to the unit of analysis at this stage: how much content (words) could be defined as one coded unit? Sometimes a few words were enough but sometimes a longer paragraph was needed to explain the content. A leading thought on this matter was to code in a such way, that the content of the code would be easy for an outside spectator to recognise. Thus, the length of a code was not considered as important as the content and therefore the length of individual codes vary highly. The coding frequency for similar information in the same source document was also reflected on by the researcher. If for example a press release included a list of many replaced unit managers, those were given the same code, but if the content changed significantly to for example

one unit manager and one brand manager, then the content was coded with two codes. It did not matter that the coded material represented the same category.

The analysed data includes all press releases that relate to Volkswagen's diesel scandal revealed during the year 2015. With a total amount of 201 codes assigned to the data, it was possible to identify 11 thematic categories describing the ways in which Volkswagen tried to repair its legitimacy. Three of these categories were previously not identified in literature, but solely found in the data set. Table 4 shows the themes, code categories and an explanation of Volkswagen's actions. In the following sections the argumentation for all categories will be presented and explained more thoroughly.

Table 4 Explanation of legitimacy repairing actions used by Volkswagen

<i>Theme</i>	<i>Category/Code</i>	<i>Explanation</i>
<i>Pragmatic legitimacy</i>	Deny	Volkswagen denies partially some aspects of the crisis or its scale.
	Create monitors	Collaborating with other actors in connection to the crisis helps to ease the pressure on Volkswagen.
	Inform customers	Volkswagen tries to ease customers' concerns, so as not to lose its customer base.
<i>Moral legitimacy</i>	Excuse	Volkswagen excuses for the incident in different ways.
	Justify	Volkswagen tries to alternate the public's conception of the scandal into a neutral story.
	Replace personnel	By replacing the top management of Volkswagen and all employees found guilty to any illegal proceedings Volkswagen disassociates from the crisis.
	Revise practices	To make similar events impossible in the future Volkswagen revises practices.
	Reconfigure	Volkswagen reconfigures its business processes and structure to avoid complexity in the firm. Decisions-making is brought nearer to the production.
	Affirmation	Reassurance of a better future and change in the company is seen as a way to bring back trust from stakeholders.
<i>Cognitive legitimacy</i>	Explain	Volkswagen informs the public openly of its wrongdoings in connection to the crisis.
	Technical solutions	Volkswagen presents technical solutions to fix the affected vehicles.

5.2 Frequencies and quantitative results

Even though the main attention in the analysis is on the qualitative content of the data, quantifying the results helps to give an overview of the content of the press releases. Presenting code frequencies and percentage shares demonstrates the appearance of different actions Volkswagen utilised in its communication. The results will both be presented as percentages of all coded actions or as a numerical amount of actions, whichever gives a more proper explanation of the phenomena.

The different themes present in Volkswagen's crisis communication were moral legitimacy management, pragmatic legitimacy management and cognitive legitimacy management. Their shares and the shares of the individual categories are presented in Figure 4. The three themes are presented with lightly dotted pattern fill, whereas the shares of the 11 categories are presented with solid fill.

Moral legitimacy management was clearly the most frequently used theme, with 100 (50%) of VW's actions falling into this group. Pragmatic legitimacy management accounted for 71 (35 %) assigned codes and cognitive legitimacy management comprised only of 30 (15 %) coded actions.

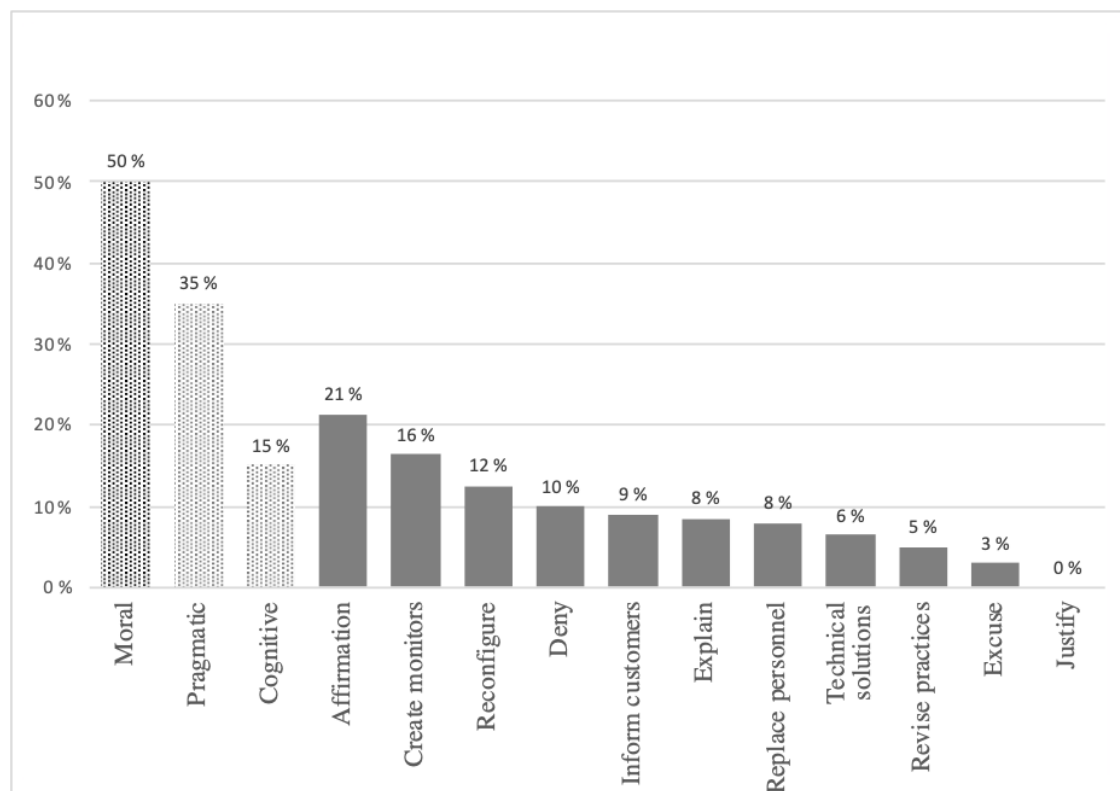


Figure 4 Percentage share of thematical and category frequency in data sample

The result can partly be explained by the sheer number of categories included in the moral legitimacy theme: “excuse”, “justify”, “replace personnel”, “revise practices”, “reconfigure” and “affirmation”. Pragmatic legitimacy only includes the numbers of “deny”, “create monitors” and “inform customers” and cognitive legitimacy includes just two categories: “explain” and “technical solutions”. However, even though the legitimacy management themes defined in this thesis are not static, but rather dynamic, it must be recognised that moral legitimacy management actions were as often used by Volkswagen as the two other themes together.

Figure 4 shows clearly, that some actions have appeared more frequently in Volkswagen’s communication than others, and that one category did not even appear once in the sample. The action of “affirmation” was identified in all together 43 of the 201 legitimacy management actions (21%), whereas “excuse” only accounted for 6 actions (3%). “Create monitors” with 33 actions (16%) and “reconfigure” with 25 actions (12%) also stand out from the data.

As the frequency for some of the actions are clearly higher, more attention will be given to these categories as they seem to be more significant, at least from a quantitative perspective and as there is more data about them. The categories “affirmation”, “inform customers”, and “technical solutions” will be looked into with care as they are categories not previously defined by Suchman (1995) as legitimacy management actions but were identified as ways for Volkswagen to repair legitimacy by the author. The following sub-chapters will present these categories in the same order as they were in the classification system (Table 3).

The prevalence of each category in the press releases is presented in Figure 5. The percentage share indicates in how big a share of the 25 press releases each action type was present.

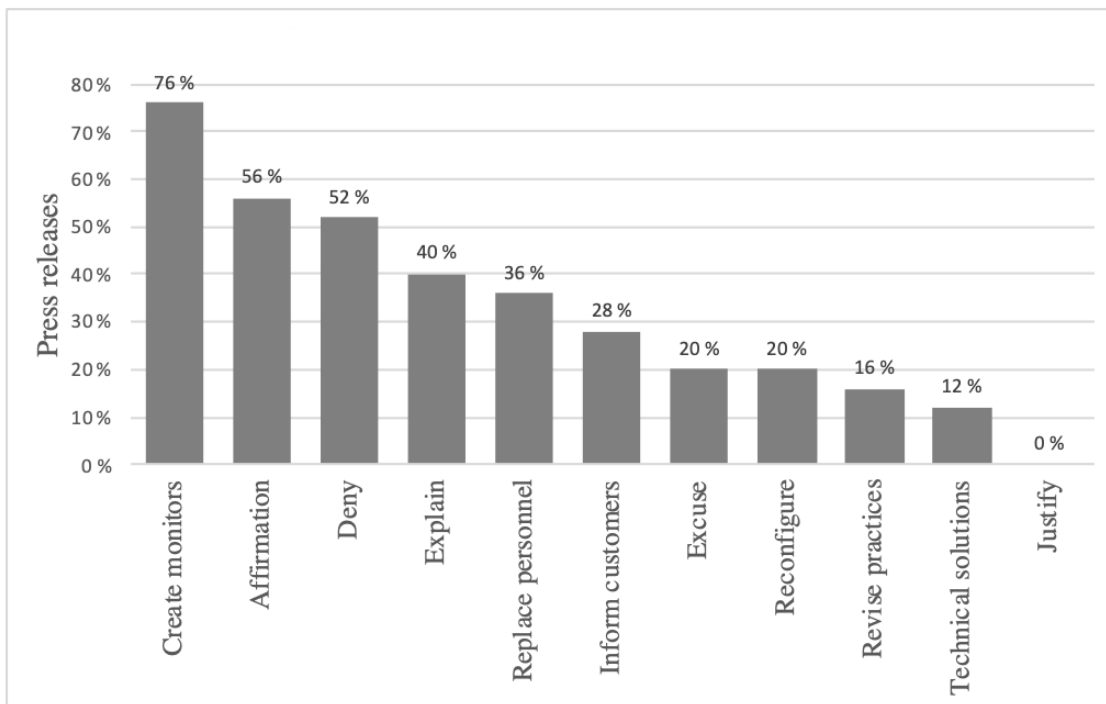


Figure 5 Percentage share of categories in press releases

The results presented in Figure 5 are to a large extent similar as the statistics presented in Figure 4. For example, the categories “affirmation” and “deny” can be found with high percentage shares in both figures. However, some conclusions can be drawn of the few

significant differences in the figures. Although “create monitors” was a rather common action, with the second largest share of all actions its occurrence in the press releases is disproportionately larger than any of the other categories. Being present in 19 (76 %) press releases identifies this action to have been often and heavily used by Volkswagen. Another conclusion can be made of the category reconfiguration. It had the third largest share among the actions, but the category was only present in 5 (20 %) press releases. This indicates that the category was seldom present in Volkswagen’s communication, but in the few press releases where it was used it had a high frequency.

The classification process and the findings found through it helps in the analysis of the development of Volkswagen’s legitimacy repairing actions over time. In the evaluation of the different time phases of the legitimacy management one has to take into account that most of the actions were found in press releases released in the beginning of the crisis. 102 of the altogether 201 references were found in the press releases released during the first 17 days, even though the follow-up period was over three months long. This combined with the clear descent in volume of press releases after the first month (Figure 1) shows how concentrated the communication was on the initial phase of the crisis. In addition, as VW’s legitimacy management is studied through its communication one must keep in mind that the firm used rhetoric means in its press releases. Such rhetoric techniques are for example repetition of important actions that Volkswagen wanted to highlight. Extensive use of repetition has a major effect on the quantified results and would leave other less frequent findings in the shadow. However, a clear story of development can be discovered from the content and meaning of Volkswagen’s actions, which cannot be seen in just the quantified findings. When analysing the content and meaning of the individual actions the context in which they were released and combination to other actions play a crucial role. These factors are all part of VW’s legitimacy management strategy, with which it strived to repair its legitimacy.

Another aspect in Volkswagen’s legitimacy management strategy, that cannot just be quantified is the targeting of stakeholder groups with different legitimacy repairing actions. Some of the actions were clearly meant for individual stakeholder groups, whereas others were more general. To be able to analyse the development of Volkswagen’s actions and the targeting of individual stakeholder groups VW’s legitimacy management story had to be rephrased and summarised. This reframing of VW’s story is presented in section 5.6.

5.3 Pragmatic legitimacy

The combining factor for all of Volkswagen’s actions that were coded into the categories of pragmatic legitimacy is the self-interest of the audiences. It could be through actions

that were aimed at directly appealing to the vehicle owners' self-interest, as in the case of the new category of "inform customers". It could also be through more implied and indirect actions, such as with the category of creating monitors, where Volkswagen strived to collaborate and act in uniform with organisations of high acceptability. That would ensure Volkswagen's stakeholders to more easily consider Volkswagen's future actions to be aligned with theirs.

5.3.1 Deny

Faced with grave and undisputed evidence of emissions cheating, Volkswagen acknowledged to its guilt straight from the beginning of the scandal, and never denied completely its involvement in the illegal actions. However, Volkswagen used several other ways to implicitly deny (20 references, 10%) or downsize its responsibility for the illegalities. Martin Winterkorn, CEO at the time, denied all knowledge of the cheating.

I am doing this in the interests of the company even though I am not aware of any wrong doing on my part. (4:1)

The same message was continued also after the change of CEO, when Volkswagen blamed individual "rogue engineers" of installing and handling the cheat devices. Even though admitting that Volkswagen employees were guilty, the firm denied further knowledge of the cheating and the involvement of its management in the decision-making about it.

The test manipulations are a moral and political disaster for Volkswagen. The unlawful behavior of engineers and technicians involved in engine development shocked Volkswagen just as much as it shocked the public. (7:1)

Another way Volkswagen responded was by revoking parts of the claims that were directed against the company. For example, by pointing out that some of its vehicles did not have the cheat device installed the company could deny parts of the accusations against it.

New vehicles from the Volkswagen Group with EU 6 diesel engines currently available in the European Union comply with legal requirements and environmental standards. (2:1)

When confessing to the cheating the company made some ground rules on how far it went in the cheating. As the company admitted having cheated regulators and customers, it simultaneously strongly denied that this would not have jeopardised the safety of the customers.

The software in question does not affect handling, consumption or emissions. (2:2)

The Group CEO also emphasized that all of the vehicles in question are technically safe and roadworthy: “At no time was the safety of our customers compromised.” (12:1)

5.3.2 Create monitors

Creating monitors (33 references, 16%) refers to the actions of Volkswagen with which it strived to find institutions that could lend support to it, or institutions Volkswagen could use as a source of legitimacy. As such sources Volkswagen utilised legislators, regulators and other governmental bodies, that represented trustworthiness, credibility, and other positive aspects.

After having got caught for cheating its customers and regulators alike with a cheating device for nearly a decade, Volkswagen must have understood that there was a major probability that its messages would not be believed by its stakeholders anymore. As a solution Volkswagen shored up its communication with references to the above-mentioned public officials.

We will cooperate fully with the responsible agencies, with transparency and urgency, to clearly, openly, and completely establish all of the facts of this case. (1:1)

The company will shortly be presenting the technical solutions to the responsible authorities – in particular the German Federal Motor Transport Authority (KBA) – for approval. (12:1)

Today’s meeting showed once again that the investigations are being pursued systematically and intensively. The law firm Jones Day commissioned by the Supervisory Board to conduct the external investigation is literally leaving no stone unturned. (13:1)

All three of the statements above share the same feature of a supporting external actor that partly shields Volkswagen from acting alone. As VW either collaborates with someone, asks for someone's approval or opens its books and files for someone to inspect, it is hard to give independent critique to Volkswagen directly. The firm hardly seemed to do any important decisions without mentioning the external law firm or a responsible authority.

Clearly any sort of self-evaluation after the scandal would have been unthinkable and inadequate, but Volkswagen's choice to order an external investigation was a bold move by the company, which, however, also supports Volkswagen's official message of disbelief when faced with the news of the scandal. The company strongly communicated its will to conduct a proper investigation and come clean of the incident. This attitude was seen starting from the beginning of the crisis, when Volkswagen voluntarily made a complaint of its own behaviour to the State Prosecutor. Although Volkswagen would certainly have met legal proceedings in Germany anyway, acting self in advance gave the company more leeway. By being proactive Volkswagen strived to change its profile from being chased by the law to a collaborator, with the same goal as the prosecutors.

The Executive Committee have decided that the company will voluntarily submit a complaint to the State Prosecutors' office in Brunswick. In the view of the Executive Committee criminal proceedings may be relevant due to the irregularities... (5:1)

Another, more subtle way for Volkswagen to monitor its public presence and benefit from other stakeholder's legitimacy was by announcing strong collaboration with its employees in the wake of the scandal.

In our Group, more than 600,000 people work to build the best cars for our customers. I would like to say to our employees: I know just how much dedication, how much true sincerity you bring to your work day after day. Therefore, it would be wrong to cast general suspicion on the honest, hard work of 600,000 people because of the mistakes made by only a few. Our team simply does not deserve that. (3:2)

The move can be seen to be inside the scope of creating monitors, as the firm now suggests that any retribution that would be directed on Volkswagen will indirectly also hurt the employees of the firm. It is one thing to direct feelings of disappointment and boycott against a global multinational and another to do the same thing against (figuratively) a neighbour. Thus, for a pragmatic spectator the calculation of the firm gets more vivid. It

is not more a question about the rights and wrongs of a faceless company but also a question of the hundreds of thousands of employees, and their carriers, salaries, and happiness. This would apply at least as long as the whole body of employees are not under suspicion of the crime, which is unthinkable in Volkswagen's situation, as it has several hundred thousand employees. Volkswagen leaned on the support of its workforce in many press releases and even had the Works Council representative comment the situation (20:2).

5.3.3 *Inform customers*

This new category of informing customers got its name from the simple fact that a major share of the content of the category was messages to customers informing them on the progress of evaluations and solutions for their cars. Such a category was necessary to establish, as those messages were numerous, including 18 references (9%) in seven files, which had a quite similar content, targeted on a specific stakeholder group. It was also clear that the content belonged to pragmatic legitimacy, as it appealed to the customers' interest in their own cars.

This messaging strives to have an influence on the pragmatic side of the audience. It targets (mostly) just one significant core stakeholder group; Volkswagen's customers. The need to communicate actively to the existing customers is not overseen by Volkswagen, as all existing customers are brand ambassadors of sorts and their willingness to remain Volkswagen customers in the future is of great value for the firm. As such the group's satisfaction with the process of repairing the flawed vehicles is of outmost importance for Volkswagen.

Even though it can be argued that everyone lost something because of Volkswagen's fraud, in the form of passive exposure to higher emissions and local air pollution, the ones (economically) most impacted were the existing owners of Volkswagen's vehicles. As Volkswagen was facing a possible threat of restrictions to their vehicle trading, such verdicts would certainly have inflicted the retail value of older diesel vehicles as well. If customers would have been left in the dark without proper information the situation could have led to existing owners' panic and mass sell-off.

In a first step, the customers affected will be informed that the emissions characteristics of their vehicles will be corrected in the near future. (10:1)

Müller said: "In many instances a software update will be sufficient. Some vehicles, however, will also require hardware modifications. We will keep our customers constantly informed about the measures and arrange workshop appointments." (12:2)

The category of informing customers is a bit similar as “affirmation”, but in this category the messages always include some sort of solution and the target group is in the centre of the message. The content of the messages is also always reassuring for the target group, which suggests they appeal to the self-interest of the customers.

The Volkswagen Group is in addition already in dialogue with the respective countries' financial and fiscal authorities so that all taxes arising in direct relation to the CO2 issue are charged straight to the Volkswagen Group and not to the customers. (21:2)

While the technical measures are being performed Volkswagen AG aims to avoid any disadvantages for the customers, such as any curbing of their mobility. In this connection the Volkswagen brand is assuring all customers that where necessary an appropriate replacement mobility option will be provided free of charge. (25:3)

This category is a good example on how targeted the actions and communication of Volkswagen was in its attempt to find a new beginning with each particular stakeholder segment.

5.4 Moral legitimacy

When Volkswagen’s actions are analysed from a moral legitimacy perspective the utilitarian aspect is essential. All categories of moral legitimacy can be seen to give utilitarian responses to Volkswagen’s crisis. Volkswagen’s actions in these categories should be socially accepted and valuable in themselves.

5.4.1 Excuse

To offer an excuse after having wronged someone can be seen as a natural thing to do, but for companies this is not as straightforward. Even though the pressure from the public for an apology is strong, the firm might need to consider an apology. This usually includes the reason for the apology, which could mean that the company would prematurely confess to a crime for which it might not be judged. However, as Volkswagen was caught red-handed and the authorities already had the sufficient proof of emissions tampering, the firm did not need to consider holding back the truth. With its communication

Volkswagen could take part in the discussion of the scandal, and at least try to repair some legitimacy at the same time, by giving an honest apology and excusing (6 references, 3%) for its deeds.

We can only apologize and ask our customers, the public, the authorities and our investors to give us a chance to make amends. (7:3)

The excuse is also not content bound – when Volkswagen communicates its excuse it does not always have to concern the action of installing a cheat device into its vehicles, but it can as well be about how the company could not provide the public with sufficient information about the crisis even weeks after its initiation. The apology could also be given in many ways, one way to frame it was through a negation, as in the examples below.

There is absolutely no excuse for the manipulations which have deeply shocked Volkswagen. (7:1)

He said that what had happened went against everything the Group and its people stand for and that there was no excuse. (12:1)

The “excuse” can also be utilised to disassociate from the previous behaviour: the company communicates that it is “shocked” and that the actions went against everything the company represented (7:1; 12:1). Furthermore, Volkswagen was clearly striving for transparency and accountability in its excuses, as no examples of excuses in the form of “we apologise, but actually it was not our fault” were found in the press releases.

5.4.2 Justify

The action of justification was not used by Volkswagen in its crisis management. As outlined in the theoretical framework, this action is a possible way for repairing legitimacy, but the firm had clearly decided against using this method. In the theoretical framework it was defined as actions, that strived to change the purpose and actions of the firm retrospectively, so that the disruptive action would appear constant with prevailing moral and cognitive beliefs. This was perhaps seen as impossible, as the extent of the scandal was so large and the contrast between accepted and unaccepted behaviour in this field so wide.

5.4.3 *Replace personnel*

Among Volkswagen's first actions after the outbreak of the scandal was Volkswagen's CEO's, Martin Winterkorn's voluntary resignation. The decision was published as a statement by the CEO on the third day and as the fourth press release during the crisis.

As CEO I accept responsibility for the irregularities that have been found in diesel engines and have therefore requested the Supervisory Board to agree on terminating my function as CEO of the Volkswagen Group. (4:1)

Even though the first example is a direct quotation from the CEO, and not presented as the company's message it must be seen to be part of Volkswagen's crisis communication. The firm's CEO represents the firm in all his actions and the message was published by Volkswagen. If the decision to resign was really Martin Winterkorn's own or if the Supervisory Board had instructed him to frame it as a voluntary resignation, cannot be said based on the data. However, replacing the CEO as the chief representative for a company is one of the main crisis management actions, and as such the end result would have probably been the same wherever the decision came from.

Volkswagen needs a fresh start – also in terms of personnel. I am clearing the way for this fresh start with my resignation. (4:2)

The second quotation (4:4) explain quite well why replacing personnel (16 references, 8%) is an important factor for repairing legitimacy. By changing leadership, the firm strives to get a new start, with a new chief executive that cannot be blamed for the former's errors. If the scandal is strongly connected to the former CEO, then the firm might even frame itself innocent to the CEO's crimes by expelling him. Volkswagen's Executive Committee did not follow this path, but instead thanked the CEO for his work and praised him for his responsibility towards the company.

The Executive Committee has great respect for Chairman Professor Dr. Winterkorn's offer to resign his position and to ask that his employment agreement be terminated. The Executive Committee notes that Professor Dr. Winterkorn had no knowledge of the manipulation of emissions data. The Executive Committee has tremendous respect for his willingness to nevertheless assume responsibility and, in so doing, to send a strong signal both internally and externally. (5:1)

With this approach Volkswagen gains simultaneously the benefit of a fresh start with a new CEO but also avoids the guilt associated with a public condemnation of its previous CEO. As all firms are to a large extent personified in their leadership Volkswagen's approach to praise Winterkorn for his responsibility and high values can be seen as a way to frame the company to represent that too. At least as long as the guiltiness of Winterkorn is undecided and as such the decision to disassociate from the CEO gives the firm more time to prepare for next actions.

After the resignation of the former CEO Volkswagen continued hastily with new leadership changes, by appointing a new CEO, Matthias Müller (then CEO of Porsche, one of Volkswagen's subsidiaries) and a new Chairman for the Supervisory Board, Hans Dieter Pötsch⁴.

4. Matthias Müller will lead the Volkswagen Group going forward as the new CEO of Volkswagen AG. He is what the company needs now. Matthias Müller is exactly the right man at the right time to make a fresh start and to drive clarification of the current crisis that has hit our company with decisiveness and to draw the right conclusions. We expressly value his critical and constructive approach. (7:2)

The thematic of personnel replacements continued throughout the whole first quarter year after the start of the crisis, until a large share of the whole leadership had been changed.

The renewal of personnel in the Group has recently again been given new impetus. Since the beginning of 2015, the Group's Board of Management has seen six new members join, seven of the brands have had their top personnel changed, and eight departments falling within the CEO's area of responsibility now have new heads. Müller stated: "The team with which we wish to address the challenges of the coming months and years is in place." (24:3)

Simultaneously with new appointments Volkswagen reacted strongly against all identified wrongdoers in the company by suspending their contracts. These actions did also continue throughout the whole following period and were brought to the public's knowledge as internal investigations advanced, as can be seen in the 7th, 17th, and 24th press release below.

⁴ As the managers and even the top executives of VW are not public figures or well-known persons in the same extent as the CEO and Chairman, they are not presented and referred to in this thesis, even though they might be named in the public legal proceedings against Volkswagen.

With the information currently available the Supervisory Board recommended the immediate suspension of some employees. This process is already underway. (7:1)

According to Müller, those responsible for what has happened must face severe consequences. (17:1)

Hans Dieter Pötsch stressed that, “No business transaction justifies overstepping legal and ethical bounds.” As a first step, nine managers who may have been involved in the manipulations were suspended. (24:1)

By replacing the top management of Volkswagen and all employees found guilty to any illegal proceedings Volkswagen disassociates from the crimes. Disassociation from the past is strongly connected to this group of Volkswagen’s actions, and in contrast to some other legitimacy actions personnel replacements are concrete actions with concrete outcomes.

5.4.4 Revise practices

The actions categorised under “revise practices” (10 references, 5%) refers to such changed practices, that would not need structural changes, as the ones categorised under reconfiguration. Such actions can mainly be divided into two groups. Firstly, the practical changes, that would prevent further emissions cheating to happen in the company and secondly, such cultural changes, that would change the moral code inside the company to oppose further illegalities. Both changes would increase trust in Volkswagen’s legal operations.

Introducing more peer-control to its manufacturing processes is one key feature. This is to be done by working in pairs when working with sensitive emissions control devices. Other aspects were increased automated supervision, that would both control against and alarm in case of illegalities.

...For example, in the future, software for engine control devices will be developed more strictly in accordance with the 4-eyes principle... (24:1)

...Volkswagen will introduce IT systems that allow individual processes to be monitored with greater efficiency and transparency. This will simultaneously reduce our dependence on individuals when problematic processes have to be identified and, if necessary, escalated... (24:3)

As the company had been able to circumvent the emissions tests of the regulators for nearly a decade, a clear alternation to new testing practices was needed. That would include both increased internal as external testing and also testing in real-world circumstances.

...Volkswagen has decided that in the future emissions test will be evaluated externally and independently. In addition, randomly selected real-life tests to assess emissions behavior on the road will be introduced. (24:4)

The other thematic, that the firm emphasised after the scandal was cultural change. The company CEO remarked, that changes were necessary in management behaviour and in the handling of mistakes. The traditional vehicle manufacturer would also need to remake itself as something of a combination of its past as a conventional German manufacturer and as an agile start-up from California, and thus ensure its fit for future challenges.

According to Müller, the future will be about more open discussions, closer cooperation, and a willingness to allow mistakes if they are understood as an opportunity to learn. The Chairman of the Board of Management stated, "... I am calling for people who are curious, independent, and pioneering. People who follow their instincts and are not merely guided by the possible consequences of impending failure. In short: the future at Volkswagen belongs to the bold. We need a little more Silicon Valley, coupled with the competence from Wolfsburg, Ingolstadt, Stuttgart, and the other Group locations." (24:6)

The need for change in the company culture may partly be a sign of universal need for businesses to change when threatened by new innovations and changes in their operating environment, i.e. traditional vehicle manufacturers with the upcoming of electric vehicles and new stricter regulation. But in the case of Volkswagen it was also a proclamation of change from being a traditional German engineer-led manufacturer to something else.

5.4.5 Reconfigure

One of Volkswagen's most numerous actions was reconfiguration of business practices. The category of reconfiguration included actions ranging from geographical and struc-

tural reorganisation and strategic new orientation. Distinctive for the reconfiguration actions was that all of the 25 actions (12%) were found in only five press releases. This means that the frequency of actions was fairly high in a few press releases.

Quite early on, just five days in to the emissions crisis, Volkswagen announced wide ranging reorganisation of its businesses. Structural changes were especially made in North-America, which at the beginning was the centre of crisis. However, further on the whole company went on to see major changes in its structure.

The Supervisory Board decided on the reorganization of the Group's activities in North America... (9:3)

Volkswagen strived for a new leaner and more efficient structure, were the global Volkswagen Group, which headquarters are based in Germany, was not anymore responsible for all managerial decisions alone. Decisions should rather be possible to be made on a geographically unified area where individual regions could work more independently. By putting the regions in charge of their own markets Volkswagen simultaneously demanded higher responsibility from the regions.

The new structure strengthens the brands and regions, gives the Group Board of Management the necessary leeway for strategy and steering within the company, and lays a focus on the targeted development of futureoriented fields.” (9:2)

...existing corporate bodies, structures and processes will be streamlined at Group level, in particular by strengthening the brands and regional accountability. To that end the Volkswagen brand will introduce a management structure with four regions, each led by a local CEO with a direct reporting line to the brand Chairman, Herbert Diess. (9:7)

...introduce new structures in the Volkswagen Group. “The key point is that Group management will be decentralized to a greater extent in the future”, he said, with more independence for the brands and regions. (17:1)

With the reduction of the number of independent markets, combined with a new regional level of management Volkswagen communicated its will to depend on clearer structures that would strengthen the firm's accountability but simultaneously reduce its complexity, and thus avoid shortcomings in local leadership.

The interim Supervisory Board Chairman emphasized that “one key point is that we are scaling back complexity in the Group.” (9:9)

Another major theme of reconfiguration that was identified in the company’s communication, was how it announced its need for savings. The cost of the emissions scandal was not only a loss of legitimacy but also a large financial burden. The fines the company had to pay amounted to the double-digits billions, and Volkswagen had to ensure its stakeholders of its ability to pay.

He added that the company must now respond swiftly: “That is why we have initiated a further critical review of all planned investments. Anything that is not absolutely necessary will be cancelled or postponed.” (12:1)

And it is why we will be intensifying the efficiency program. To be perfectly frank: this will not be a painless process. (12:2)

...We must make massive savings to manage the consequences of this crisis... (12:3)

The last two quotations are not only directed to the shareholders, but seemingly also to the employees. The CEO of the company gives a pre-warning, as not only did the company’s brand suffer of the scandal, but also sales and profitability were at risk, which would have a clear negative impact on the employees’ situation in the future.

As described earlier Volkswagen Group houses many different car brands and a multitude of models under these brands. One of these brands is Phaeton – Volkswagen’s own luxury model, which Volkswagen will now turn into an electric vehicle. If the former Phaeton represented the best Volkswagen could offer, in the future a zero-emitting electric vehicle will take that position.

Phaeton redefined – the future is electric ... The future generation of the Phaeton will once again be the flagship for the brand’s profile over the next decade. In light of this, the Board of Management redefined the current project... (14:4)

This sort of actions can be seen as a minor reconfiguration, as the vehicle is not yet in production, but it does still give a signal of change. It is also highly relevant as a counter measure against the emissions scandal, as electric vehicles have much smaller emissions than conventional vehicles. The strategic change to introduce more low emitting technologies into its vehicles was also a recurring message from Volkswagen.

...The focus is on plug-in hybrids with an even greater range, high-volume electric vehicles with a radius of up to 300 kilometers, a 48-volt power supply system (mild hybrid) as well as ever more efficient diesel, petrol and CNG concepts. (14:2)

As a clear sign of changes in the company Volkswagen announced in the aftermath of the crisis, that it will re-write its strategy to represent the change the firm wanted to accomplish.

The Volkswagen CEO announced that the fifth priority will be to transform the Group's Strategy 2018 into a Strategy 2025...According to Müller, the point is not to sell 100,000 more or fewer vehicles than a major competitor. Instead, the real issue is qualitative growth. (17:3)

The company had previously, before the crisis, boasted how the new clean diesel vehicles would increase Volkswagen's sales in the US and then make it the largest manufacturer in the world. Strategic decisions and changes should be seen as reconfiguration if they have material and long-term implications for the firm. Volkswagen's decision to henceforth put new qualitative targets in its strategy instead of only striving for a quantitative growth in vehicle sales was a such decision.

5.4.6 Affirmation

The most numerous of all categories was one that was discovered in the analysis of Volkswagen's press releases and established as a way for the company to repair legitimacy among its stakeholders. The category of "affirmation" was created to harbour all such communicative messages that aim to convince the reader of the press releases of something. A Cambridge dictionary search would bring an explanation of "to state something as true", which is applicable to the category as it certainly was Volkswagen's intent with its comments.

Furthermore, "affirmation" differs from the other categories, as it is not as clearly a thematical category, but rather a stylistic category, where all coded content shares the same style of communication with a similar ambition. The decision to categorise "affirmation" under moral legitimacy can be argued for as the category's content often strive to amplify the messages of the other moral legitimacy categories. The content coded to "affirmation" can also be seen to have utilitarian objective. A common unifying trait among the coded content of the category is that it mostly consists of citations from

Volkswagen's top executives, mostly the Group's CEO Matthias Müller or Hans Dieter Pötsch, the Chairman of the Supervisory Board of Volkswagen Group.

The category was present in 14 of the 25 press releases and included 43 references (21%), which is ten more than the second largest category "create monitors". Examples of the category consists mostly of strong declarations of change.

We owe that to our customers, our employees and the public. Manipulation and Volkswagen – that must never be allowed to happen again. (3:2)

Matthias Müller said: "My most urgent task is to win back trust for the Volkswagen Group – by leaving no stone unturned and with maximum transparency, as well as drawing the right conclusions from the current situation." (8:1)

Martin Winterkorn: "I am shocked by the events of the past few days. Above all, I am stunned that misconduct on such a scale was possible in the Volkswagen Group." (4:1)

Concerning the content of the quotations the most numerous of them was Volkswagen's determination to win back the trust of customers, employees, and the public, which was present in 17 of this category's references. Volkswagen's writings about regaining trust are also very much in-line with Suchman's (1995) framework on repairing legitimacy.

I assure you that Volkswagen will do everything humanly possible to win back the trust of our customers, the dealerships and the public." (6:3)

The trust of our customers and the public is and continues to be our most important asset. (1:2)

To cover the necessary service measures and other efforts to win back the trust of our customers, Volkswagen plans to set aside a provision of some 6.5 billion EUR... (2:3)

Many of the quotations were seasoned with metaphorical assertions, which changed the impression of the press releases to more likable and made them easily quotable for e.g. news agencies. Sometimes the quotations in the press releases came from speeches, as the one below. It was held by CEO Müller to 20.000 employees at the German firm's place of origin, the Wolfsburg plant in Lower Saxony.

“Only when everything has been put on the table, when no single stone has been left unturned, only then will people begin to trust us again,” Müller said. (12:6)

The peculiarity of the citation is that it utilises a well-known rhythm of an old Native-American saying:

When the last tree has been cut down, the last fish caught, the last river poisoned, only then will we realize that one cannot eat money (Speake 2009, 176).

Which makes the usage in a defence speech of a multinational corporation accused of fraud and excessive emissions, frankly, quite odd. Yet, one must assume that the clear resemblance is unintentional, and the pattern was chosen because of its effectiveness as a figure-of-speech.

The format of using quotations in its press releases gave the Volkswagen management a powerful tool to express its vision for the future of the company, in a hope that these reassurances would take hold in the audiences’ minds. Such messages set the pace in many of the press releases and helped to build up Volkswagen’s public story, which can be exemplified below.

In summary, the Chairman of the Board of Management stated: “Although the current situation is serious, this company will not be broken by it. We have a clear mission: we will create a new, better, and stronger Volkswagen. A company that uses its strengths to make the transition to the new world of automobiles. A company that now releases new forces, and takes better advantage of its huge potential. And, last but not least, a company that will be successful over the long term on the basis of strong values.” (24:6)

5.5 Cognitive legitimacy

Cognitive legitimacy was the theme with the fewest categories and also least coded content, although it is a powerful source of legitimacy. As cognitive legitimacy is born on the subconscious level and not easily influenced, in contrast to pragmatic and moral legitimacy which can be influenced by right timed and directed actions. Volkswagen could

grow its cognitive legitimacy by being understandable and act consistently with stakeholders' opinions and values. After the emissions scandal Volkswagen engaged this lack of comprehensibility by explaining its actions and the situation in which it was.

5.5.1 *Explain*

After having wronged someone, a normal reaction is to explain the situation. That was also the goal of Volkswagen. By sharing information, the company could lessen the need for speculation but also be a more active participant in the discussion that understandably aroused after each new revelation of Volkswagen's fraud. As the information would anyway be public information, Volkswagen might have decided to better be part of discussion than not.

Altogether this category comprises of 17 references (8%) in 10 press releases. To keep the content of the category in-line a clear understanding of the category's content was needed. Explaining may be used in so many ways that it was necessary to limit the category "explain" to describe why the cheating happened, how it happened and to recount the latest findings of the scandal – such as information which courts would release.

At present we do not yet have all the answers to all the questions. But we are working hard to find out exactly what happened. To do that, we are putting everything on the table, as quickly, thoroughly and transparently as possible. (3:1)

The information that has been screened to date has largely explained the origin and development of the nitrogen oxide issue. It proves not to have been a one-time error, but rather a chain of errors that were allowed to happen. The starting point was a strategic decision to launch a large-scale promotion of diesel vehicles in the United States in 2005. Initially, it proved impossible to have the EA 189 engine meet by legal means the stricter nitrogen oxide requirements in the United States within the required timeframe and budget. This led to the incorporation of software that adjusted nitrogen oxide emission levels according to whether vehicles were on the road or being tested. Later, when an effective technical process was available to reduce Nox emissions, it was not employed to the full extent possible. On the contrary, the software in question allowed the exhaust gas treatment additive "AdBlue" to be injected in variable amounts such that the Nox values were particularly low when vehicles were in the test bay, but significantly higher when vehicles were on the road. (24:3)

As the example above demonstrates, Volkswagen's explanation was quite thorough and in line with the findings that came from the courtrooms and from the research institutes researching on the case. Other communication in this category included e.g. announcements of the number of vehicles affected.

5.5.2 *Technical solutions*

“Technical solutions” is also a new category recognised from the material. It offers a category for the mechanical and procedural solutions planned and introduced for its vehicles.

...The software of the 2.0 and 1.2 liter TDI will be updated. For the 1.6 liter TDI, a so-called flow transformer will be used that increases the measurement precision and, in combination with redesigned software, will optimize injection quantity. (24:1)

It could well have been incorporated into the “explain” category, but that would have increased the category's size and made it even more diverse, which speaks against the idea of categorisation. As such the two categories work as well as their own categories. A recognisable trait for “technical solutions” was that it gathered codes only from three press releases, but with an amount of all together 13 references the occurrence was rather concentrated.

5.6 **Time and stakeholder dependent actions**

To be able to determine the development of Volkswagen's actions over time and the firms use of strategic targeting of individual stakeholder groups one must look at the content of these individual actions identified and extracted from VW's press releases. But to understand their significance they must be seen in context. Each legitimacy repairing action is always connected to a larger context, a story. This section will reframe the story Volkswagen presented after the scandal and thus help to answer the research question. The content of the story is not based on mere quantified results but more importantly on the found meanings of Volkswagen's legitimacy repairing actions.

The first few initial responses communicated how “deeply shocked” (Excuse 7:1) Volkswagen was and “stunned that misconduct on such a scale was possible” (Affirmation 4:1). Regardless its shock and surprise VW was from the very beginning ready to

“set aside a provision of some 6.5 billion” (Affirmation 2:3) euros to cover for necessary costs, which it announced in its second statement, and that there was “no excuse for the manipulations” (Excuse 7:1). VW also announced that it would conduct internal investigations and promised results “as quickly, thoroughly and transparently as possible” (Explain 3:1).

During the period, for which Volkswagen was followed, the company strictly held on to its claim that the company’s top executives⁵ had no knowledge of the 10 million defeat devices installed in its vehicles but also never denied the firm’s responsibility as a whole. The company repeatedly announced its responsibility and apologised for the deceiving practices, however, mostly combined with the addition, that the illegalities “went against everything the Group...stand for” (Excuse 12:1). Despite the claimed innocence of the CEO Martin Winterkorn he soon “clear(d) the way” (Replace personnel 4:2) for a new CEO. With a long row of other changes in leadership the firm effectively disassociated with the previous leadership that had represented it in the public.

Even though Volkswagen’s original calculations of fines and penalties were off by a factor of 5:1 and approximation of affected vehicles by a factor of 2:1, it had rightly understood the graveness of crisis. It affirmed that the “test manipulations are a moral and political disaster for Volkswagen” (Deny 7:1), which now three years later can definitely be verified, as the scandal has regularly kept its place in the news ever since. One of the latest major announcements was the 800 million fine Audi received in October 2018 in Germany (McGee 2018d).

After these first initial responses Volkswagen’s legitimacy management strategy seems to have been directed towards regaining the trust of its customers and the public, which VW defines as its “most important asset” (Affirmation 1:2). The new CEO Matthias Müller went even so far to announce that his “most urgent task is to win back trust for the Volkswagen Group” (Affirmation 8:1).

Volkswagen’s actions for rebuilding trust i.e. repairing legitimacy with different stakeholders varied a lot. Identified stakeholder groups that Volkswagen especially focused on in its crisis communication were its existing and future customers, the authorities and the general public i.e. citizens with no affiliation with VW. The legitimacy management actions associated most directly with each stakeholder group are presented with an explanation in Table 5. However, the stakeholder group division is not strictly unambiguous, as the communication can be directed to more than one group at the same time. Even though the segments are overlapping it gives a general perspective on the mainly targeted

⁵ At the time of writing (1/2019) over 70 employees and former employees of Volkswagen are facing trials in court or have been sentenced for their deeds regarding the emissions scandal. The sentenced include mostly engineers and managers, but among the ones waiting for decisions on their trials are the former CEOs Martin Winterkorn and Matthias Müller. (Bender 2018.) Rupert Stadler, former CEO of Audi and board member of Volkswagen Group has been arrested for 6 months on suspicion of knowledge of the emissions cheating (O’Kane 2018). On the 15th April 2019 the German “prosecutors filed aggravated fraud charges against Martin Winterkorn “(Schuetze 2019).

stakeholder group. It is also noteworthy that other legitimacy repairing actions can influence the stakeholder groups, even though it would not be directly targeted solely at it. A few messages were also directed to the employees of Volkswagen, which of course are an important stakeholder group, but mostly not communicated to with press releases. There was not enough data to establish a clear picture of Volkswagen's communication towards its employees in its effort to repair the employees trust to the company.

Table 5 Volkswagen's medium-term legitimacy management strategy to repair legitimacy after the emissions scandal

Stakeholder group	Explanation	Legitimacy management action
Government	Come clean and collaborate with authorities	Create monitors
Customers	Ensure customer safety and financial security	Deny Inform customers
General public	Find the responsible and make them pay	Replace personnel

Volkswagen's main message for existing customers was that the defeat device did not "affect handling, consumption or emissions" (Deny 2:2) and that all vehicles were technically "safe and roadworthy" (Deny 12:1). For future customers the firm added that its newer vehicle models did not have the defeat device and would thus "comply with legal specifications and environmental requirements" (Deny 2:1). These measures were aimed to regain trust among its customer base, by ensuring safety and security to them. This was further bolstered by Volkswagen's promise that no disadvantage would come to existing customers, and that the company would even take care of any extra fees or "taxes arising" (Inform customers 21:2) from the emissions issue.

To ensure the rebuilding of trust towards the authorities, as regulators and officials, Volkswagen used other measures. In nearly four out of five of its press releases Volkswagen announced its aim to "cooperate fully with responsible agencies, with transparency and urgency" (Create monitors 1:1). If the repetitious communication was out of fear for retributions from the regulators or just a sign or token of collaboration for the authorities' lengthy investigations cannot be said, but the message was clearly aimed at them.

A third stakeholder group to which Volkswagen had to rebuild trust to was the general public. Such individuals would not be as much interested in the promise of vehicle-safety as customers or the need for assurance of collaboration as authorities were. They would be more interested in that justice was fulfilled. As Volkswagen was able to frame the illegalities in such a way that it was more rogue engineers, than the whole company that was to be blamed, directed the interest to finding and ensuring that "those responsible for

what has happened (...) face severe consequences” (Replace personnel 17:1). For ordinary citizens, this was not a question of vengeance, but of righteousness, where VW’s further announcements of suspending managers who “have been involved in the manipulations” (Replace personnel 24:1) helped Volkswagen to repair legitimacy.

However, these identified medium-term trust building activities, as important as they were, can only be seen to be a patch which helps to ensure that the company’s legitimacy would not deteriorate even further. Yes, vehicle owners would be able to trust that Volkswagen’s cars are safe and that they would not be in a financial danger regarding their car. But they would most likely still think on Volkswagen as the company that tricked them to buy a flawed car. Or the citizens who read about the suspension of criminal employees, would they not remember Volkswagen as the firm that defied the rules, even though it later acted to make amends and rectify it. This seems plausible.

To repair its legitimacy as defined by Suchman (1995) Volkswagen needed real change. No mere revised practices as implementing a “4-eyes principle” (Revise practices 24:1) to its engine control device development or similar actions would be enough to make the stakeholders forget that the company had been caught red handed for fraud. As any minor changes would not be enough, Volkswagen needed a vision of change that would make stakeholders look past VW’s wrongdoings to be able to repair its legitimacy.

The change Volkswagen decided to pursue was a transformation to become a leading provider of electric mobility. From having been the world’s largest producer of traditional internal combustion engine vehicles it decided to take the leap into being the first major car manufacturer that invested its future in electric vehicles. This transformation would of course be a long-term change, but by careful review of the press releases show that this change was initiated with Volkswagen’s legitimacy management actions.

But as with every change there is change resistance and fear for change, which could prevent any major transformations. The first step towards changing the course of the firm was the changes in management, after which the appointed new leaders could steer the company into the new direction. The second came through restructuring, which gave the Group Board of Management more “leeway for strategy and steering within the company” (Reconfigure 9:2), which ensured them more power for strategic changes. To make employees better acceptable for the upcoming changes the Board increased anxiety and uncertainty among them by announcing that all planned investments would be reviewed and “anything that is not absolutely necessary will be cancelled or postponed” (Reconfigure 12:1). The message was even further enhanced by adding that the efficiency program would “not be a painless process” (Reconfigure 12:2) in the CEO’s speech to employees.

The major transformation into electric mobility was hinted on already in October 2015, with announcements that the Group would shift focus to “plug-in hybrids with an even

greater range, high-volume and electric vehicles” (Reconfigure 14:2) and with the recalibration of Volkswagen’s flagship brand, the Volkswagen Phaeton, to an all-electric vehicle (Reconfigure 14:4).

The CEO described the upcoming change, that would be presented in the company’s new strategy “Together 2025” as a “transition to the new world of automobiles” (Affirmation 24:6). This change was proven in VW’s new strategy that was released 6 months later in June 2016 with the overreaching goal for Volkswagen Group to become the world’s leading provider of sustainable mobility. That would mean a surge in production of electric vehicles and massive investments to the technology. (VW Strategy 2016.) These actions of reconfiguration and the presentation of the new strategy with a clear goal in reaching sustainability is the defining point in Volkswagen’s strategy to repair its legitimacy.

6 CONCLUDING DISCUSSION

The findings of this research are drawn together in this concluding chapter with managerial and theoretical implications. At the end of the chapter future research based on the results of this thesis are suggested and the limitations of this research are acknowledged.

6.1 Key findings

The classification system based on the legitimacy management framework outlined by Suchman (1995) proved adequate for recognising most of Volkswagen's actions with which it tried to repair its legitimacy. The theoretical backbone of this thesis, legitimacy theory, can be used for analysing strategic crisis management, because it helps the researcher to explain and predict the patterns found in a firm's legitimacy management. With the addition of the categories of "affirmation", "technical solutions", and "inform customers" to the classification system the coverage of the analysis could be extended to incorporate most of Volkswagen's actions to repair legitimacy. When evaluating the added action categories, one must keep in mind that they are highly situation sensitive and possibly applicable only to vehicle manufacturing industry.

Units of analysis were coded into nearly all the defined categories and most received a large amount of content, which means that the category was common. Frequently coded categories were especially the categories of "affirmation", "create monitors", and "reconfigure". The three categories with the least coded content were "technical solutions", "revise practices", and "justify", latter being the only category that received zero references.

When observing how often the categories were included in VW's press releases the three most common were again "create monitors" and "affirmation" but instead of "reconfiguration" the category "deny" was the third most used in the press releases. Apart from "justify" the three categories with least occurrences in press releases were "technical solutions", "revise practices" and "reconfiguration". When comparing the percentage share of each category in the whole data sample to its prevalence among the press releases, especially the category "reconfiguration" is notable. It has quite a modest prevalence among the press releases occurring in only five, but has still 25 references coded to it. This tells of a large aggregation of reconfiguration actions in each of the five press releases.

When comparing the share between the three thematic groups of moral legitimacy, pragmatic legitimacy and cognitive legitimacy the first mentioned was clearly the largest. Moral legitimacy received half of all references from the data as pragmatic legitimacy accounted for 35 % and cognitive legitimacy for 15 %. It contains also the most commonly used category "affirmation", which was created for this study based on the findings

from the data. In contrast to the more thematically grouped other categories “affirmation” represents a more stylistic category with which Volkswagen amplified its other messages.

“Create monitors” was the largest category in the theme pragmatic legitimacy which gathered all of Volkswagen’s action with which it tried to use other institutions legitimacy as a shield or source of legitimacy. As such the theme was often used by Volkswagen. The less frequent theme cognitive legitimacy contained the categories “explain” and “technical solutions”. To these categories were coded such content with which Volkswagen strived to repair its legitimacy on a subconscious level. Such is hard to accomplish, is time consuming, and may therefore have been quite seldom applied to the press releases.

When evaluating Volkswagen’s responses and actions with which it tried to repair its legitimacy the interesting aspect is how efficient the chosen actions were. This significance of the categories cannot be as easily determined as the amount, share or content. But for the analysis, the significance of these determinants is needed. The significance of Volkswagen’s actions is based on the content combined with the share and amount of each action. It is equally important to recognise that the significance of each action cannot be evaluated without the interference and connection to the other actions. As such Volkswagen’s crisis management actions are pieces of a larger frame which must be evaluated as a whole to understand how Volkswagen strived to repair its legitimacy.

The decision to further segment Volkswagen’s legitimacy management actions based on the targeted stakeholder segment gave a more thorough understanding of how the actions could be used most effectively. This has further managerial implications, as it proves that the choice of legitimacy repairing actions are case sensitive, where the significance of each action depends highly on the organisation’s identified stakeholders. Segmenting actions based on stakeholders was touched upon and implied by Suchman, but not as firmly stated as an important factor in legitimacy repairing process as the earlier defined actions. By choosing which stakeholder segments are most important for the organisation it can simultaneously narrow down the actions it will need to use in its crisis management. For Volkswagen these identified stakeholder groups with the connected actions respectively were the government and “create monitors”, customers combined with “deny” and “inform customers” and the general public with “replace personnel”.

The reframing of Volkswagen’s legitimacy management story showed that individual actions worked together to rebuild legitimacy in the most efficient way. More important than any of the individual action categories was the collaboration of actions as pieces of the larger strategy to repair legitimacy. As such the significance of legitimacy repairing actions and communication about them should also be evaluated based on the wholeness of the legitimacy management strategy. It is also important to notice that the effective use of the actions is also dependent on the timeframe when they are used, and as such different legitimacy repairing actions may prevail as the most significant during each phase of the

crisis. Based on the findings of this research it can be argued, that the action of reconfiguration was defined as the most significant way for Volkswagen to repair its legitimacy on the long term.

6.2 Embracing change and repositioning for the future

Volkswagen Group's emissions scandal in year 2015 had large consequences for the firm on the short term but especially the longer-term implications for the company have been significant. When summing up all the costs inflicted by the defeat device and the emissions cheating Volkswagen has already paid up to 30 billion euros for the scandal that affected up to 10 million vehicles. That sum however, includes only the fines and other penalties for violations of laws, payments to authorities, costs of compensations, repurchases and retrofitting of vehicles. (McGee 2018; Leggett 2018c.) Other costs as e.g. internal cost of work regarding the investigation, response planning, or increased marketing costs are not included in the total sum and external not-as-easily quantifiable costs as reputational costs are also notwithstanding but certainly substantial. Furthermore, Volkswagen still faces new lawsuits around the world, including a nine billion claim by shareholders in Germany (Kottasova 2018). Compared with the sale revenues of nearly 231 billion and an operating profit of 17 billion euros for the year 2017 the penalties are significant, however not life-threatening for the multinational (Volkswagen's annual report 2018).

When observing the situation of 2015, and Volkswagen's initial response to the crisis, one must bear in mind that the firm had to make its crisis management strategy in the wake of the crisis based on the information the firm had at that point of time, and under hard pressure. Thus, an evaluation of VW's choices over three years later in 2019 can be made based on much more information than the firm could know for certain of the future in 2015. Yet, one must assume and even take for granted, that Volkswagen had drafted future scenarios for its core business, with much more data than the public knew at the time. The plans would have been based on investigations of upcoming regulation, consumer reports on future demand, and business plans of future business targets. They are usually based on the firm's own knowledge of its own strengths and weaknesses and the threats and possibilities it will face in the future. Such strategic planning is common for corporations in the size of Volkswagen and mandatory for future success, especially in an industry which is still heavily based on physical manufacturing. Reactions to consumer demand that require changes in production cannot be done in a fortnight but can take years of planning and production.

Keeping this in mind one can deduct, that Volkswagen combined this thorough industry-specific knowledge to its legitimacy management strategy. How soon the strategy to

overcome the crisis was coined, and how exact the strategy was in the beginning one cannot know. What is clear though, is that the company had a strategy and strived to create a coherent story of change, which it could use and consistently refer to in its press releases.

The need for change and the need to transform the whole company had certainly been recognised at Volkswagen much earlier than 2015. The unquestionable megatrends that would threaten the traditional car manufacturing industry had been present for decades. Global warming and urbanisation were not questioned anymore, they were regarded as facts that would certainly have drastic implications for the greenhouse gas emitting internal combustion engine and the diesel engine with its local air-quality pollutants in the future. Failing to act on these megatrends seems like a folly from the point-of-view of 2019, but then again – much have changed in the car manufacturing industry since.

Just to mention a few examples of changes in the business environment. Two large German cities, Stuttgart and Hamburg have decided to ban old diesel-vehicles from their centrums in a push to clear the air from local air-quality pollutants (Deutsche Welle 2018). The Paris Agreement, approved in 2016, aims to limit the temperature increase to 1.5 degrees Celsius by cutting emissions drastically (Paris Agreement 2018). Sweden and Norway have decided to ban selling of new combustion engine vehicles in 2030 respectively 2025 (Hartikainen 2018). Those are just the foretaste of challenges the traditional car manufacturers will face in the not-so-far-away future.

Volkswagen's emissions scandal was a changing point for VW, that made it possible for the firm to pursue a transformation to become a producer of electric vehicles. The crisis set things in motion for the manufacturer, first with minor changes and then larger. Severe crisis can be catalysts for change, as the organisation is forced to make internal changes. The emissions crisis Volkswagen faced in 2015 gave VW's management the possibility to initiate changes that might have previously not have been possible, either because of internal opposition or for fear of customer reactions. The situation was evaluated as so grave that the leadership managed to get the company and its stakeholders to "buy-in" to the transformation to electric mobility. This long-term reconfiguration of Volkswagen's business is the most significant legitimacy repairing action after the emissions scandal.

What the company needed after the emissions scandal was a change that would alter the future story of Volkswagen so much that the unwanted bond to the emissions cheating would be broken. To achieve this change Volkswagen is investing 44 billion euros until year 2023 in electric mobility, which is manifold compared with its peers (Murphy 2019). This is not to say, that electric vehicles would not have been around before or that other companies would not produce them. Yet, based on VW's new strategy the German firm would be the first large scale vehicle manufacturer to invest its future in electric movement.

6.3 Theoretical implications

In this research, the assumption was made that organisations strategically plan their actions and strive to uphold legitimacy, and as in the situation of Volkswagen the firm will attempt to repair its legitimacy in the event of an internal and external crisis. As the main framework of this thesis, Suchman's legitimacy management framework, draws from the highly theoretical legitimacy theory, the practical utilisation of the framework must be done carefully.

The actions identified by Suchman (1995) were initially not ranked based on their prevalence or significance in the legitimacy management of an organisation. However, the findings of this research suggest that significance of each action can be found by analysing the story the organisation wants to present. Only by combining the systematically found actions with a thorough analysis of the firm's strategic objectives can significance of each action be evaluated. For this purpose, Volkswagen's stakeholder segments were identified as target groups of legitimacy management. This segmentation made it possible to extract information about targeting individual actions for specific stakeholder groups, which was not explicitly stated in the original framework presented by Suchman (1995).

To receive a full coverage of all actions, further categories were added to the classification system originating in the theoretical framework. The evidence of this research suggests that additions may well be in place for a successful application of legitimacy management framework. However, as the naming practice of new categories is arbitrary and the content of the categories fully dependent on the event, clear instructions for any enlargement or specification of Suchman's framework cannot be given. The theoretical implication would thus be to open the framework for more case sensitive categories, that in the best way observe the peculiarity of the legitimacy management situation in question. This applies fully to the omission of the "justify" category in the press releases, as it did not have a purpose in the chosen legitimacy management strategy of Volkswagen and was thus left unused, but the conclusion of this would hence not be that it would not deserve its place as a defined legitimacy management action.

6.4 Limitations and further research

To understand and state the limitations of one's own research gives more credibility to the research results as their limitations are thus better known. Such defined limitations of this thesis were the source, the type, and the one-sidedness of the data. By only analysing the press releases of Volkswagen the author was limited to very partial material written by Volkswagen. Other formats than press releases could also have been used, for example

including other marketing material by Volkswagen would have expanded the understanding on Volkswagen's legitimacy management strategy further.

A triangulation of methods would have made it possible to analyse the content in more multifaceted ways, which would have increased the trustworthiness of the research. Coding in content analysis does not in itself put value on the effectiveness of any of the found legitimacy repairing actions and so combining content analysis with some other analysis method might have given more thorough information about the discovered legitimacy repairing actions.

The theoretical framework is to a large extent based on the writings of one individual researcher, Mark Suchman, and as such the theoretical foundation for legitimacy management can be called to questioned. However, most present research on legitimacy management are based on the work of Suchman and present him as a seminal writer on the theme (see e.g. Grolin 1998; Palazzo & Scherer 2006; Erkama & Vaara 2010; Desai 2011; Carnegie & O'Connell 2012; Claasen & Roloff 2012; Dumay et al. 2015).

The findings of this study offer interesting future possibilities for research. A possible future research avenue would be to enlarge the legitimacy management framework to utilise segmentation of stakeholders in the analysis. Another future research subject could be to dig deeper into Volkswagens legitimacy management by applying a new research design to the same research. By collecting more data, for example by broadening the data sample to marketing material or Volkswagen's social media communication (posts on Twitter and Facebook) one would receive enough data to be able to analyse how the legitimacy management actions changed during the time period and if the change was dependent on the communication channel. Further studies could also be conducted on other firms facing a crisis, perhaps in other industries to find out if the findings for that industry would be similar to those concerning Volkswagen.

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APPENDIX 1 LIST OF PRESS RELEASES

Source	https://www.volkswagenag.com/en/media.html
Key words	diesel issue; diesel scandal; co2 issue; co2 scandal; nox scandal; nox issue; diesel crisis; defeat device; cheat device; cheating device; emissions scandal; emission scandal; emissions issue; emission issue; dieselgate; diesel gate
Release date	Name of press release
2015_09_20	Statement of Prof. Dr. Martin Winterkorn, CEO of Volkswagen AG
2015_09_22	Volkswagen AG has issued the following information
2015_09_22	Text: video statement of the CEO of Volkswagen AG
2015_09_23	Statement by Prof. Dr. Winterkorn
2015_09_23	Statement from the Executive Committee of Volkswagen AG's Supervisory Board
2015_09_25	Dr. Herbert Diess, CEO of the Volkswagen Passenger Cars brand, explains: "We are working at full speed on a solution."
2015_09_25	Statement by the Supervisory Board of Volkswagen AG
2015_09_25	Matthias Müller appointed CEO of the Volkswagen Group
2015_09_25	The Volkswagen Group is restructuring: Supervisory Board passes resolutions for new organization
2015_09_29	Volkswagen AG announces action plan to update diesel vehicles with EA 189 EU5 engines
2015_10_01	Statement from the Executive Committee of Volkswagen AG's Supervisory Board following its meeting on September 30, 2015
2015_10_06	Matthias Müller: "We will overcome this crisis"
2015_10_07	Statement from the Supervisory Board of Volkswagen AG
2015_10_13	Volkswagen Brand Board of Management takes strategic decisions
2015_10_15	Federal Motor Transport Authority (KBA) decides on recall for affected EA 189 diesel vehicles
2015_10_22	Volkswagen confirms: EA288 engines designed for EU5 and EU6 are not affected
2015_10_28	Matthias Müller unveils next steps for the Volkswagen Group
2015_11_02	Statement on the announcement by the United States Environmental Protection Agency (EPA)
2015_11_03	Clarification moving forward: internal investigations at Volkswagen identify irregularities in CO2 levels
2015_11_09	Group Board of Management and Works Council agree on joint steps
2015_11_13	Next step in clarifying the CO2 issue
2015_11_25	Technical measures for the EA 189 diesel engines affected presented to the German Federal Motor Transport Authority
2015_12_09	CO2 issue largely concluded
2015_12_10	Volkswagen making good progress with its investigation, technical solutions, and Group realignment
2015_12_16	NOx issue: customers are being informed, implementation is starting

APPENDIX 2 EXAMPLE OF PRESS RELEASE

VOLKSWAGEN

AKTIENGESELLSCHAFT

Presse | News | Prensa | Tisk | Imprensa | Prasa | Stampa | Pers | 新闻 | Пресса

Volkswagen AG has issued the following information:

Wolfsburg, September 22, 2015 –Volkswagen is working at full speed to clarify irregularities concerning a particular software used in diesel engines. New vehicles from the Volkswagen Group with EU 6 diesel engines currently available in the European Union comply with legal requirements and environmental standards. The software in question does not affect handling, consumption or emissions. This gives clarity to customers and dealers.

Further internal investigations conducted to date have established that the relevant engine management software is also installed in other Volkswagen Group vehicles with diesel engines. For the majority of these engines the software does not have any effect.

Discrepancies relate to vehicles with Type EA 189 engines, involving some eleven million vehicles worldwide. A noticeable deviation between bench test results and actual road use was established solely for this type of engine. Volkswagen is working intensely to eliminate these deviations through technical measures. The company is therefore in contact with the relevant authorities and the German Federal Motor Transport Authority (KBA – Kraftfahrtbundesamt).

To cover the necessary service measures and other efforts to win back the trust of our customers, Volkswagen plans to set aside a provision of some 6.5 billion EUR recognized in the profit and loss statement in the third quarter of the current fiscal year. Due to the ongoing investigations the amounts estimated may be subject to revaluation. Earnings targets for the Group for 2015 will be adjusted accordingly.

Volkswagen does not tolerate any kind of violation of laws whatsoever. It is and remains the top priority of the Board of Management to win back lost trust and to avert damage to our customers. The Group will inform the public on the further progress of the investigations constantly and transparently.

Volkswagen Group Communications

Head of Corporate & Business Communications

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No. 346/2015

APPENDIX 3 CODED CONTENT

DENY

2015_09_22_Press_Release_2 - 3 references coded

Reference 1

New vehicles from the Volkswagen Group with EU 6 diesel engines currently available in the European Union comply with legal requirements and environmental standards.

Reference 2

The software in question does not affect handling, consumption or emissions.

Reference 3

Further internal investigations conducted to date have established that the relevant engine management software is also installed in other Volkswagen Group vehicles with diesel engines. For the majority of these engines the software does not have any effect.

2015_09_23_Press_Release_4 - 1 reference coded

Reference 1

I am doing this in the interests of the company even though I am not aware of any wrong doing on my part.

2015_09_25_Press_Release_6 - 2 references coded

Reference 1

As previously announced, all new Volkswagen Passenger Car brand vehicles that fulfill the EU6 norm valid throughout Europe are not affected. This therefore also includes the current Golf, Passat and Touran models.

Reference 2

The vehicles are and remain technically safe and roadworthy.

2015_09_25_Press_Release_7 - 1 reference coded

Reference 1

“The test manipulations are a moral and political disaster for Volkswagen. The unlawful behavior of engineers and technicians involved in engine development shocked Volkswagen just as much as it shocked the public.

2015_09_29_Press_Release_10 - 1 reference coded

Reference 1

All vehicles are technically safe and roadworthy.

2015_10_06_Press_Release_12 - 2 references coded

Reference 1

The Group CEO also emphasized that all of the vehicles in question are technically safe and roadworthy: “At no time was the safety of our customers compromised.

Reference 2

And above all: all EU6 diesel vehicles comply with legal specifications and environmental requirements.

2015_10_15_Press_Release_15 - 2 references coded

Reference 1

Customers now have clarity with regard to the continued unrestricted use of the vehicles. All of the vehicles affected remain technically safe and roadworthy.

Reference 2

The current successor generation of EA 288 diesel engines (in use since 2012) is not affected.

2015_10_22_Press_Release_16 - 1 reference coded

Reference 1

Volkswagen confirms today that no software constituting an improper defeat device as defined in law is installed in vehicles with EA 288 EU5 as well as EU6-engines in the European Union. Consequently, new vehicles of the Volkswagen Group offered within the European Union with those engines comply with legal requirements and environmental standards.

2015_11_02_Press_Release_18 - 1 reference coded

Reference 1

Statement on the announcement by the United States Environmental Protection Agency (EPA) Wolfsburg, November 2, 2015 – The United States Environmental Protection Agency (EPA) informed Volkswagen Aktiengesellschaft on Monday that vehicles with V6 TDI engines had a software function which had not been adequately described in the application process. Volkswagen AG wishes to emphasize that no software has been installed in the 3-liter V6 diesel power units to alter emissions characteristics in a forbidden manner. Volkswagen will cooperate fully with the EPA clarify this matter in its entirety.

2015_11_03_Press_Release_19 - 1 reference coded

Reference 1

The safety of the vehicles is in no way compromised.

2015_11_13_Press_Release_21 - 1 reference coded

Reference 1

What is sure is that the vehicles’ safety is definitely not affected and there is therefore no need for any technical measures to be taken

2015_11_25_Press_Release_22 - 1 reference coded

Reference 1

One thing is certain: the vehicles remain technically safe and can therefore be driven on public roads without any limitation.

2015_12_09_Press_Release_23 - 3 references coded

Reference 1

Just a month after questions relating to the CO2 figures measured on some of the Group’s models arose, Volkswagen has largely concluded the clarification of the matter. Following extensive internal investigations and measurement checks, it is now clear that almost all of these model variants do correspond to the CO2 figures originally determined. This means that these vehicles can be marketed and sold without any limitations. The suspicion that the fuel consumption figures of current production vehicles had been unlawfully changed was not confirmed. During internal remeasurements slight deviations were found on just nine model variants of the Volkswagen brand.

Reference 2

Volkswagen presented these results to the investigation commission of the Federal Government and the Federal Motor Transport Authority (KBA). The figure of approximately 800,000 vehicles under suspicion originally published by the Volkswagen Group has not been confirmed. The deviations found in the figures for only nine model variants amount to a few grams of CO2 on average, corresponding to increased cycle consumption in the NEDC of approximately 0.1 to 0.2 li-

tres per 100 kilometres. With an annual production of approximately 36,000 vehicles, these model variants correspond to around only 0.5 per cent of the volume of the Volkswagen brand. The list of the nine model variants can be found at www.volkswagenmedia-services.com.

Reference 3

Customers' real-world consumption figures do not change and neither are any technical vehicle modifications necessary

CREATE MONITORS

2015_09_20_Press_Release_1 - 2 references coded

Reference 1

We will cooperate fully with the responsible agencies, with transparency and urgency, to clearly, openly, and completely establish all of the facts of this case.

Reference 2

Volkswagen has ordered an external investigation of this matter.

2015_09_22_Press_Release_2 - 1 reference coded

Reference 1

The company is therefore in contact with the relevant authorities and the German Federal Motor Transport Authority (KBA – Kraftfahrtbundesamt).

2015_09_22_Press_Release_3 - 2 references coded

Reference 1

And we continue to cooperate closely with the relevant government organizations and authorities

Reference 2

In our Group, more than 600,000 people work to build the best cars for our customers. I would like to say to our employees: I know just how much dedication, how much true sincerity you bring to your work day after day. Therefore, it would be wrong to cast general suspicion on the honest, hard work of 600,000 people because of the mistakes made by only a few. Our team simply does not deserve that.

2015_09_23_Press_Release_5 - 3 references coded

Reference 1

6. The Executive Committee have decided that the company will voluntarily submit a complaint to the State Prosecutors' office in Brunswick. In the view of the Executive Committee criminal proceedings may be relevant due to the irregularities. The investigations of the State Prosecutor will be supported in all form from the side of Volkswagen.

Reference 2

7. The Executive Committee proposes that the Supervisory Board of Volkswagen AG create a special committee, under whose leadership further clarifying steps will follow, including the preparation of the necessary consequences. In this regard, the Special Committee would make use of external advice.

Reference 3

9. The Executive Committee will work on these tasks together with the employees and the Management Board. Volkswagen is a magnificent company that depends on the efforts of hundreds of thousands of people.

2015_09_25_Press_Release_6 - 1 reference coded

Reference 1

We are working intensively on remedial measures in close coordination with the certification authorities.

2015_09_25_Press_Release_7 - 2 references coded

Reference 1

1. The Supervisory Board has authorized the Chairman to mandate German and US lawyers to objectively investigate and fully clarify the manipulation of emissions data of diesel engines.

Reference 2

" The Supervisory Board today commissioned an American law firm to assist in further clarification and in preparing the necessary steps.

2015_09_29_Press_Release_10 - 1 reference coded

Reference 1

Under the action plan, Volkswagen and the other Group brands whose vehicles are affected will present the technical solutions and measures to the responsible authorities in October.

2015_10_01_Press_Release_11 - 2 references coded

Reference 1

Under the guidance of the Supervisory Board, the external investigation is being conducted by the US law firm Jones Day. This complex and comprehensive investigation will cover all the current relevant matters. The Supervisory Board will ensure that the law firm can carry out its investigation independently. Jones Day will submit regular reports to the Supervisory Board on progress with the investigation.

Reference 2

In addition to Jones Day, the committee will be able to call upon additional external consultants and experts at any time.

2015_10_06_Press_Release_12 - 1 reference coded

Reference 1

The company will shortly be presenting the technical solutions to the responsible authorities – in particular the German Federal Motor Transport Authority (KBA) – for approval.

2015_10_07_Press_Release_13 - 1 reference coded

Reference 1

The new Supervisory Board Chairman continued: "Today's meeting showed once again that the investigations are being pursued systematically and intensively. The law firm Jones Day commissioned by the Supervisory Board to conduct the external investigation is literally leaving no stone unturned."

2015_10_15_Press_Release_15 - 2 references coded

Reference 1

Wolfsburg, October 15, 2015. Volkswagen welcomes the swift decision by the Federal Motor Transport Authority (KBA) to implement the timetable and plan of measures submitted last week by issuing a recall. This decision gives customers clarity with regard to the continued unrestricted use of the vehicles.

Reference 2

All measures will first be presented to the responsible authorities.

2015_10_28_Press_Release_17 - 1 reference coded

Reference 1

For this purpose, audit firm Deloitte has been engaged in addition to the steps already announced. According to Müller, those responsible for what has happened must face severe

consequences.

2015_11_03_Press_Release_19 - 2 references coded

Reference 1

The Board of Management of Volkswagen AG will immediately start a dialog with the responsible type approval agencies regarding the consequences of these findings. This should lead to a reliable assessment of the legal, and the subsequent economic consequences of this not yet fully explained issue.

Reference 2

In cooperation with the responsible authorities, Volkswagen will do everything in its power to clarify the further course of action as quickly as possible and ensure the correct CO2 classification for the vehicles affected.

2015_11_09_Press_Release_20 - 2 references coded

Reference 1

A series of talks between the Board of Management and the employee representative body will take place over the coming ten days in order to find a common path for the future of the company.

Following today's meeting, Müller said: "In the present difficult situation we must jointly make decisions that factor in economics just as much as employment. I attach great importance to the views and experience of our works councils. In light of the changed circumstances, we are facing an ambitious task. We will be prioritizing forward-looking products and technologies. Bernd Osterloh and I agree that this is the key factor for reliably safeguarding both the future success of our company and employment."

Reference 2

Osterloh commented: "Matthias Müller will personally take charge of cooperation between the Board of Management and the Works Council. That is a strong signal for the workforce. We will join him on the road to the future because we believe he is a reliable partner. We are seeking shared decisions in the interest of the company, shareholders and employees. The challenges are enormous, but the workforce will stand behind the company as long as we succeed in agreeing on a balanced package of investments, economy measures and forward-looking projects. The discussions between Matthias Müller and myself have laid the foundation for that."

2015_11_13_Press_Release_21 - 2 references coded

Reference 1

In order to expedite any possible reassessment of the vehicles' CO2 figures without delay, the relevant authorities are being informed of the latest findings. At the same time the Volkswagen Group is informing its importers and trading partners.

Reference 2

The next step will now be, for example for the Volkswagen brand, for the new CO2 figures to be determined under the supervision of the German Federal Vehicle and Transport Authority (KBA).

2015_11_25_Press_Release_22 - 2 references coded

Reference 1

Following an intensive examination, these measures have been ratified by the Federal Motor Transport Authority.

Reference 2

Based on these technical measures accepted by the Federal Motor Transport Authority, the necessary service concepts are currently being developed for the EU28 markets concerned.

2015_12_09_Press_Release_23 - 1 reference coded

Reference 1

During internal remeasurements slight deviations were found on just nine model variants of the Volkswagen brand. These model variants will be remeasured by a neutral technical service under the supervision of the appropriate authority by Christmas.

2015_12_10_Press_Release_24 - 4 references coded

Reference 1

For the first time, the Company provided detailed commentary on the status of its investigation, which is being coordinated by a special committee of the Supervisory Board. Approximately 450 internal and external experts are involved in the investigations, which are being conducted in two phases. An internal review, being conducted by a task force of experts from various Group companies with a clearly defined mandate and a deadline, is focused on the mandate to Group Audit by the Supervisory Board and the Management Board to investigate relevant processes, reporting and monitoring systems, and the associated infrastructure. Group Audit will provide its findings to the external experts of Jones Day. The Supervisory Board has given this internationally respected law firm a parallel mandate to completely clarify the facts and responsibilities – i.e., among other things, it has been asked to conduct a forensic investigation. In connection with its work, Jones Day is being provided with operational support by the audit firm Deloitte.

Reference 2

Although Group Audit's analysis of the processes will be concluded shortly, Jones Day will need well into next year in order to finish its work. The external investigators will need more time for their investigation, for two reasons. The first is that they have a massive volume of data to screen. At present, 102 terabytes of information have been secured, which is the equivalent of the information contained in approximately 50 million books. More than 1,500 electronic data storage units have been collected from approximately 380 employees. The second reason is that their investigation of the facts takes legal responsibility into account.

Reference 3

Technical solutions, which have been positively evaluated by the German Federal Motor Transport Authority ("Kraftfahrtbundesamt"), are now available for the European variants of the EA 189 engine type affected.

Reference 4

To this end, Volkswagen is cooperating closely with the United States Environmental Protection Agency (EPA) and the California Air Resources Board No. 437/2015 Page 4 (CARB). The solution designed for North America will be presented as soon as it has been approved by the responsible authorities.

2015_12_16_Press_Release_25 - 1 reference coded

Reference 1

The Volkswagen Group has presented the concrete measures proposed for the EA189 1.2, 1.6 and 2.0-litre engines to the Federal Motor Transport Authority (KBA). After intensive review, the KBA has fully ratified all of the measures. The remedial measures for all affected vehicles are thus confirmed.

INFORM CUSTOMERS

2015_09_29_Press_Release_10 - 2 references coded

Reference 1

In a first step, the customers affected will be informed that the emissions characteristics of their vehicles will be corrected in the near future.

Reference 2

Customers with these vehicles will be kept informed over the coming weeks and months. All of the Group brands affected will set up national websites to update customers on developments.

2015_10_06_Press_Release_12 - 2 references coded

Reference 1

Nevertheless, he announced that a project team had drawn up an action plan. Over the coming days, the customers affected would be informed that the emissions characteristics of their vehicles would be upgraded. Furthermore, the company has set up websites where customers can check whether their vehicles are affected by entering the chassis number.

Reference 2

Müller said: "In many instances a software update will be sufficient. Some vehicles, however, will also require hardware modifications. We will keep our customers constantly informed about the measures and arrange workshop appointments."

2015_10_15_Press_Release_15 - 2 references coded

Reference 1

Volkswagen will contact customers and inform them direct. In addition, every Volkswagen customer, for example, can visit the German website www.volkswagen.de/info set up on October 2, 2015 and enter the chassis number of their vehicle to find out straight away whether they are affected. Similar customer websites are active in the other EU countries and for the Audi, SEAT and ŠKODA brands.

Reference 2

Work on the technical solutions detailed in the plan of measures is currently proceeding at full speed. Remedial action on the vehicles will begin in January 2016 – at no cost to our customers. The technical solutions can involve software as well as hardware measures. These are currently being developed for each affected series and each affected model year.

2015_11_13_Press_Release_21 - 2 references coded

Reference 1

Over the coming week, the brands' national customer information pages on the Internet will also be added to with information on the CO2 issue. By entering their vehicle identification number (VIN), customers can find out here whether their vehicle is affected. For the Volkswagen brand in Germany, for example, the link is www.volkswagen.de/info.

Reference 2

The Volkswagen Group is in addition already in dialogue with the respective countries' financial and fiscal authorities so that all taxes arising in direct relation to the CO2 issue are charged straight to the Volkswagen Group and not to the customers.

2015_11_25_Press_Release_22 - 3 references coded

Reference 1

This means that correction measures have been fixed for the majority of the vehicles affected. In the development of the solutions, the focus was on maximum customer-friendliness. After implementation of the technical measures, the vehicles

will comply with the applicable emissions standards.

Reference 2

Volkswagen will ensure that the time needed to implement the technical measures is as short as possible for all customers. In addition, Volkswagen will contact all customers and endeavour to consider individual customer needs during the implementation of these measures to avoid any disadvantages for the customer such as possible curbing of their mobility. In connection with this, the Volkswagen brand will thus ensure that all customers are offered appropriate replacement mobility options free of charge.

Reference 3

In addition, until 31 December 2016, Volkswagen AG is expressly forgoing the right to plea on the grounds of statutes of limitations in respect of any warranty or guarantee claims due to the software installed in vehicles with EA 189 engines, as long as the rights to make any such claims have not already expired. Volkswagen customers will therefore not be disadvantaged by any waiting.

2015_12_10_Press_Release_24 - 3 references coded

Reference 1

Volkswagen will inform the owners of the affected vehicles individually as to when their vehicles will be updated. Volkswagen guarantees that the solutions will be implemented free of charge.

Reference 2

The company waives any statute of limitations for the technical solutions,

Reference 3 - 0.22

and will provide an appropriate replacement vehicle if required.

2015_12_16_Press_Release_25 - 4 references coded

Reference 1

In developing the technical measures, finding customer-friendly solutions was an important aspect.

Reference 2

In a first letter the affected vehicle owners will be informed that a recall measure is scheduled for their car. The customers will also be asked to await further written information before they actively make contact with a Volkswagen partner business. In a second letter Volkswagen will ask the affected customers in good time to make an appointment with a partner business of their choice for implementation of the technical solutions.

Reference 3

While the technical measures are being performed Volkswagen AG aims to avoid any disadvantages for the customers, such as any curbing of their mobility. In this connection the Volkswagen brand is assuring all customers that where necessary an appropriate replacement mobility option will be provided free of charge.

Reference 4

Until 31.12.2017 Volkswagen AG is expressly waiving the limitation period in respect of any claims made in connection with the software installed in vehicles with EA 189 engines. The waiving of this limitation applies even where a claim's validity has already expired. The mere act of waiting will therefore not disadvantage Volkswagen customers in any way. This means that all customers affected can wait for the necessary technical measures to be implemented on their vehicles by the above mentioned time.

EXCUSE**2015_09_20_Press_Release_1 - 1 reference coded**

Reference 1

I personally am deeply sorry that we have broken the trust of our customers and the public

2015_09_22_Press_Release_3 - 1 reference coded

Reference 1

Millions of people all over the world trust our brands, our cars and our technologies. I am deeply sorry that we have broken this trust. I would like to make a formal apology to our customers, to the authorities and to the general public for this misconduct.

2015_09_25_Press_Release_7 - 2 references coded

Reference 1

There is absolutely no excuse for the manipulations which have deeply shocked Volkswagen.

Reference 2

We can only apologize and ask our customers, the public, the authorities and our investors to give us a chance to make amends.

2015_10_06_Press_Release_12 - 1 reference coded

Reference 1

He said that what had happened went against everything the Group and its people stand for and that there was no excuse.

2015_11_03_Press_Release_19 - 1 reference coded

Reference 1

“From the very start I have pushed hard for the relentless and comprehensive clarification of events. We will stop at nothing and nobody. This is a painful process, but it is our only alternative. For us, the only thing that counts is the truth. That is the basis for the fundamental realignment that Volkswagen needs”, Matthias Müller, CEO of Volkswagen Aktiengesellschaft, said, and added. “The Board of Management of Volkswagen AG deeply regrets this situation and wishes to underscore its determination to systematically continue along the present path of clarification and transparency.”

REPLACE PERSONNEL**2015_09_23_Press_Release_4 - 2 references coded**

Reference 1

As CEO I accept responsibility for the irregularities that have been found in diesel engines and have therefore requested the Supervisory Board to agree on terminating my function as CEO of the Volkswagen Group.

Reference 2

Volkswagen needs a fresh start – also in terms of personnel. I am clearing the way for this fresh start with my resignation.

2015_09_23_Press_Release_5 - 3 references coded

Reference 1

3. The Executive Committee has great respect for Chairman Professor Dr. Winterkorn’s offer to resign his position and to ask that his employment agreement be terminated. The Executive Committee notes that Professor Dr. Winterkorn had no

knowledge of the manipulation of emissions data. The Executive Committee has tremendous respect for his willingness to nevertheless assume responsibility and, in so doing, to send a strong signal both internally and externally. Dr. Winterkorn has made invaluable contributions to Volkswagen. The company’s rise to global company is inextricably linked to his name. The Executive Committee thanks Dr. Winterkorn for towering contributions in the past decades and for his willingness to take responsibility in this critical phase for the company. This attitude is illustrious.

Reference 2

4. Recommendations for new personnel will be presented at the upcoming meeting of the Supervisory Board this Friday.

Reference 3

The Executive Committee is expecting further personnel consequences in the next days. The internal Group investigations are continuing at a high tempo. All participants in these proceedings that has resulted in unmeasurable harm for Volkswagen, will be subject to the full consequences.

2015_09_25_Press_Release_7 - 3 references coded

Reference 1

3. With the information currently available the Supervisory Board recommended the immediate suspension of some employees. This process is already underway.

Reference 2

4. Matthias Müller will lead the Volkswagen Group going forward as the new CEO of Volkswagen AG. He is what the company needs now. Matthias Müller is exactly the right man at the right time to make a fresh start and to drive clarification of the current crisis that has hit our company with decisiveness and to draw the right conclusions. We expressly value his critical and constructive approach.

Reference 3

5. The Supervisory Board resolved to propose to the Extraordinary Meeting of Shareholders on November 9, 2015 to elect Mr. Hans Dieter Pötsch as a member of the Supervisory Board. The Supervisory Board intends to subsequently elect him as its Chairman.

2015_09_25_Press_Release_8 - 1 reference coded

Reference 1

Matthias Müller (62) has been appointed CEO of Volkswagen AG with immediate effect. This was decided by the Supervisory Board at its meeting in Wolfsburg today (Friday).

2015_09_25_Press_Release_9 - 1 reference coded

Reference 1

Effective November 1, the Group’s activities in the region will be led by Prof. Dr. Winfried Vahland (58), formerly Chairman of the Board of Directors at Škoda, who in this new role becomes a member of the Volkswagen brand Board of Management. Prof. Vahland’s successor as Chairman of the Board of Directors at Škoda will be Bernhard Maier (55), until now Board Member for Sales and Marketing of Porsche AG. Michael Horn (52) remains President and CEO of Volkswagen Group of America.

2015_10_01_Press_Release_11 - 1 reference coded

Reference 1

As already decided by the Supervisory Board at the end of last week, Hans Dieter Pötsch is to become a Member of the Supervisory Board. Today (October 1, 2015), Julia Kuhn-Piëch
has
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stepped down from her position as a Member of the Supervisory Board. “We would like to thank Mrs. Julia Kuhn-Piëch for her dedicated work in the Supervisory Board of Volkswagen AG and are pleased that she will continue to serve on other committees of the Group,” said the Deputy Chairman of the Supervisory Board, Berthold Huber.

2015_10_07_Press_Release_13 - 1 reference coded

Reference 1

At its meeting today, the Supervisory Board of Volkswagen Aktiengesellschaft elected Hans Dieter Pötsch (64) as its Chairman with immediate effect. The Supervisory Board appointed Frank Witter (56), previously Chairman of the Board of Management of Volkswagen Financial Services AG, to succeed Pötsch as Member of the Board of Management with responsibility for Finance and Controlling.

2015_10_28_Press_Release_17 - 1 reference coded

Reference 1

For this purpose, audit firm Deloitte has been engaged in addition to the steps already announced. According to Müller, those responsible for what has happened must face severe consequences.

2015_12_10_Press_Release_24 - 3 references coded

Reference 1

Hans Dieter Pötsch stressed that, “No business transaction justifies overstepping legal and ethical bounds.” As a first step, nine managers who may have been involved in the manipulations were suspended.

Reference 2

At an organizational level, with the appointment of Dr. Christine Hohmann-Dennhardt, the Integrity & Law area will be represented as its own department on the Group’s Board of Management in the future – a clear indication that these issues are extremely important to Volkswagen.

Reference 3

The renewal of personnel in the Group has recently again been given new impetus. Since the beginning of 2015, the Group’s Board of Management has seen six new members join, seven of the brands have had their top personnel changed, and eight departments falling within the CEO’s area of responsibility now have new heads. Müller stated: “The team with which we wish to address the challenges of the coming months and years is in place.”

REVISE PRACTICES

2015_09_25_Press_Release_9 -2 references coded

Reference 1

According to Huber, “new, strong Group functions, such as for standardization and harmonized production processes, will lay the timely foundations for efficient decision-making. We will become faster and more agile.”

Reference 2

He said the developments of the last few days had underscored the urgency of this project: “We will not lose any time. The new management model will be implemented at the beginning of 2016.” This would bring the Board greater freedom to address urgent issues concerning Group strategy, development and steering.

2015_10_13_Press_Release_14 -1 reference coded

Reference 1

Reorientation of the diesel strategy It was decided to switch over to installing only diesel drives with SCR and AdBlue technology in Europe and North America as soon as possible. Diesel vehicles will only be equipped with exhaust emissions systems that use the best environmental technology.

2015_10_28_Press_Release_17 -1 reference coded

Reference 1

As his fourth priority, Müller is driving forward a realignment of the Group’s culture and management behavior. He noted that the pursuit of perfection, the employees’ commitment and social responsibility in the Volkswagen Group must be retained. However, he believes that changes are necessary in how Volkswagen communicates and how it handles its mistakes. “We need a culture of openness and cooperation.” Müller also called on everybody at Volkswagen to display more courage, greater creativity and a more entrepreneurial spirit in their dealings with one another.

2015_12_10_Press_Release_24 -6 references coded

Reference 1

We are concentrating on structuring these processes more transparently and systematically. For example, in the future, software for engine control devices will be developed more strictly in accordance with the 4-eyes principle. In addition, the bodies responsible for the release of such software are being reorganized.

Reference 2

The main problem there was that responsibilities were not sufficiently clear. Volkswagen will now further sharpen them.

Reference 3

Group Audit also found deficiencies in some areas of Volkswagen’s IT infrastructure. These deficiencies will also be remedied. Volkswagen will introduce IT systems that allow individual processes to be monitored with greater efficiency and transparency. This will simultaneously reduce our dependence on individuals when problematic processes have to be identified and, if necessary, escalated.

Reference 4

The Company has already drawn a key conclusion based on Group Audit’s findings, namely that its testing practice must undergo comprehensive changes. Volkswagen has decided that in the future emissions test will be evaluated externally and independently. In addition, randomly selected real-life tests to assess emissions behavior on the road will be introduced.

Reference 5

Significantly more importance will be attached to digitalization, which will report directly to the Chairman of the Board of Management. Overall, direct reports will be reduced from more than 30 to 19.

Reference 6

According to Müller, the future will be about more open discussions, closer cooperation, and a willingness to allow mistakes if they are understood as an opportunity to learn. The Chairman of the Board of Management stated, “We don’t need yes-men, but managers and engineers who make good arguments in support of their convictions and projects, who think and act like entrepreneurs. I am calling for people who are curious, independent, and pioneering. People who follow their instincts and are not merely guided by the possible consequences of impending failure. In short: the future at Volkswagen belongs to the bold. We need a little more Silicon Valley, coupled with the competence from Wolfsburg, Ingolstadt, Stuttgart, and the other Group locations.”

RECONFIGURE**2015_09_25_Press_Release_9 - 9 references coded**

Reference 1

The Volkswagen Group is restructuring: Supervisory Board passes resolutions for new organization

Reference 2

The new structure strengthens the brands and regions, gives the Group Board of Management the necessary leeway for strategy and steering within the company, and lays a focus on the targeted development of future oriented fields.”

Reference 3

The Supervisory Board decided on the reorganization of the Group’s activities in North America. The markets in the USA, Mexico, and Canada will be combined and significantly strengthened to form a new North America region.

Reference 4

At Group level the management structure will be oriented even more systematically to the modular toolkits. These toolkits feature standardized technical components for each automotive vehicle segment (volume, premium, sport and commercial vehicles). Consequently, a Porsche brand group with Bentley and Bugatti will be established for the sportscar and mid-engine toolkit. The toolkit strategy will come under the even closer guidance of the Group CEO; a separate department will be set up for this purpose.

Reference 5

New Group functions for efficiency and future-oriented fields Group functions will concentrate more closely on efficiency and future-oriented fields; organizational units, for example for Group product strategy, new business fields, cooperations and holdings, connected car activities, and CO2 steering, will therefore be set up.

Reference 6

According to Huber, “new, strong Group functions, such as for standardization and harmonized production processes, will lay the timely foundations for efficient decision-making. We will become faster and more agile.”

Reference 7

At the same time, existing corporate bodies, structures and processes will be streamlined at Group level, in particular by strengthening the brands and regional accountability. To that end the Volkswagen brand will introduce a management structure with four regions, each led by a local CEO with a direct reporting line to the brand Chairman, Herbert Diess.

Reference 8

Streamlining the Group Board of Management The production department at Group level, until now led by Thomas Ulbrich in an interim capacity, will be abolished with immediate effect. This is one consequence of delegating responsibility to the brands and regions. Berthold Huber commented: “Going forward, the brands and regions will also have greater independence with regard to production. So it follows that they should also hold the responsibility for these activities.”

Reference 9

The interim Supervisory Board Chairman emphasized that “one key point is that we are scaling back complexity in the Group.

2015_10_06_Press_Release_12 - 3 references coded

Reference 1

He added that the company must now respond swiftly: “That

is why we have initiated a further critical review of all planned investments. Anything that is not absolutely necessary will be cancelled or postponed.

Reference 2

And it is why we will be intensifying the efficiency program. To be perfectly frank: this will not be a painless process.”

Reference 3

Müller added: “At the IAA we demonstrated that the Volkswagen Group is well positioned when it comes to the key technologies of the future. We cannot afford to jeopardize this strong position now. We must make massive savings to manage the consequences of this crisis. At the same time, though, we cannot afford to economize on the future. That is something else we will also be addressing over the coming weeks and months.”

2015_10_13_Press_Release_14 - 4 references coded

Reference 1

Dr. Herbert Diess underscored: “The Volkswagen brand is repositioning itself for the future. We are becoming more efficient, we are giving our product range and our core technologies a new focus, and we are creating room for forward-looking technologies by speeding up the efficiency program.”

Reference 2

Systematic further development of the Modular Transverse Toolkit (MQB) There will be a major development thrust for the proven MQB standardized technical toolkit, where Volkswagen Passenger Cars holds responsibility for development within the Group network. The focus is on plug-in hybrids with an even greater range, high-volume electric vehicles with a radius of up to 300 kilometers, a 48-volt power supply system (mild hybrid) as well as ever more efficient diesel, petrol and CNG concepts.

Reference 3

MEB electric toolkit An MEB electric toolkit for future use in compact segment vehicles is to be developed based on the experience gained with existing vehicle architectures. This will be a multi-brand toolkit suitable for both passenger cars and light commercial vehicles and will thus leverage synergies from other electric vehicle projects in the Group. The standardized system will be designed for all body structures and vehicle types, thus allowing particularly emotional vehicle concepts, and will enable an all-electric range of 250 to 500 kilometers.

Reference 4

Phaeton redefined – the future is electric The Volkswagen Phaeton has embodied the brand’s technological competence and brand ambition from the first generation onward. The future generation of the Phaeton will once again be the flagship for the brand’s profile over the next decade. In light of this, the Board of Management redefined the current project. The specification features a pure electric drive with long-distance capability, connectivity and next generation assistance systems as well as an emotional design.

2015_10_28_Press_Release_17 - 3 references coded

Reference 1

Müller’s third priority is to introduce new structures in the Volkswagen Group. “The key point is that Group management will be decentralized to a greater extent in the future”, he said, with more independence for the brands and regions.

Reference 2

Müller stated that the Board of Management will focus on addressing cross-brand strategies, leveraging synergies and ensuring that Group resources are used effectively. “We will review in detail our current portfolio of more than 300 models

and examine the contribution that each one makes to our earnings.”

Reference 3

The Volkswagen CEO announced that the fifth priority will be to transform the Group’s Strategy 2018 into a Strategy 2025. “Many people outside of Volkswagen, but also some of us, did not understand that our Strategy 2018 is about much more than production numbers. A lot of things were subordinated to the desire to be “Faster, Higher, Larger”, especially return on sales.” According to Müller, the point is not to sell 100,000 more or fewer vehicles than a major competitor. Instead, the real issue is qualitative growth. Müller announced that the cornerstones of the Group’s Strategy 2025 will be developed over the coming months, and that it would be unveiled mid-way through next year.

2015_12_10_Press_Release_24 - 6 references coded

Reference 1

Group Audit also found deficiencies in some areas of Volkswagen’s IT infrastructure. These deficiencies will also be remedied. Volkswagen will introduce IT systems that allow individual processes to be monitored with greater efficiency and transparency.

Reference 2

As Pötsch stated: “Group Audit’s investigation is producing valuable findings, which will help us create a structure that, rather than favoring breaches of regulations, will prevent them, or at least allow them to be detected early on.”

Reference 3

Parallel to overcoming the crisis, Volkswagen is also instituting a comprehensive new alignment that affects the structure of the Group, as well as its way of thinking and its strategic goals.

Volkswagen will be managed in a more decentralized fashion in the future, and its brands and regions will be granted more independence.

Reference 4

Volkswagen will have significant input to the technical changes that have a major impact on its own business model, becoming more agile, and streamlining its decision-making processes

Reference 5

In addition, Volkswagen will become leaner and improve cost efficiency. All these structural changes ultimately aim to reduce managerial complexity and ensure that the Group can be effectively led over the long term.

Reference 6

In addition, Volkswagen has initiated development of a new strategic target: “Strategy 2025”, with which Volkswagen will address the main issues for the future, is scheduled to be presented in mid 2016.

AFFIRMATION

2015_09_20_Press_Release_1 - 3 references coded

Reference 1

We do not and will not tolerate violations of any kind of our internal rules or of the law.

Reference 2

The trust of our customers and the public is and continues to be our most important asset.

Reference 3

We at Volkswagen will do everything that must be done in order to re-establish the trust that so many people have placed in us, and we will do everything necessary in order to reverse the damage this has caused. This matter has first priority for me, personally, and for our entire Board of Management.

2015_09_22_Press_Release_2 - 4 references coded

Reference 1

Volkswagen is working at full speed to clarify irregularities concerning a particular software used in diesel engines.

Reference 2

Volkswagen is working intensely to eliminate these deviations through technical measures.

Reference 3

To cover the necessary service measures and other efforts to win back the trust of our customers, Volkswagen plans to set aside a provision of some 6.5 billion EUR recognized in the profit and loss statement in the third quarter of the current fiscal year.

Reference 4

It is and remains the top priority of the Board of Management to win back lost trust and to avert damage to our customers. The Group will inform the public on the further progress of the investigations constantly and transparently.

2015_09_22_Press_Release_3 - 4 references coded

Reference 1

"The irregularities that have been found in our Group’s diesel engines go against everything Volkswagen stands for.

Reference 2

We owe that to our customers, our employees and the public. Manipulation and Volkswagen – that must never be allowed to happen again.

Reference 3

We will do everything necessary to reverse the damage. And we will do everything necessary to win back trust – step by step.

Reference 4

That is why we are asking for trust as we move forward: We will get to the bottom of this. We are working very hard on the necessary technical solutions. And we will do everything we can to avert damage to our customers and employees. I give you my word: we will do all of this with the greatest possible openness and transparency."

2015_09_23_Press_Release_4 - 1 reference coded

Reference 1

Wolfsburg, 23. September 2015 – “I am shocked by the events of the past few days. Above all, I am stunned that misconduct on such a scale was possible in the Volkswagen Group.

2015_09_23_Press_Release_5 - 4 references coded

Reference 1

1. The Executive Committee takes this matter extremely seriously. The Executive Committee recognizes not only the economic damage caused, but also the loss of trust among many customers worldwide.

Reference 2

The Executive Committee agrees that these incidents need to be clarified with great conviction and that mistakes are corrected. At the same time, the Executive Committee is adamant that it will take the necessary decisive steps to ensure a credible new beginning.

Reference 3

8. The Executive Committee is aware that coming to terms with the crisis of trust will be a long term task that requires a high degree of consistency and thoroughness.

Reference 4

We consider it our task that this company regains the trust of our customers in every respect.

2015_09_25_Press_Release_6 - 3 references coded

Reference 1

Dr. Herbert Diess, CEO of the Volkswagen Passenger Cars brand, explains: "We are working at full speed on a solution."

Reference 2

We are working at full speed on a technical solution that we will present to partners, to our customers and to the public as swiftly as possible.

Reference 3

Our aim is to inform our customers as quickly as possible, so that their vehicles comply fully with regulations. I assure you that Volkswagen will do everything humanly possible to win back the trust of our customers, the dealerships and the public."

2015_09_25_Press_Release_7 - 1 reference coded

Reference 1

The company will leave no stone unturned in getting to the bottom of this, will call those responsible to account, and take the necessary actions.

2015_09_25_Press_Release_8 - 2 references coded

Reference 1

Matthias Müller said: "My most urgent task is to win back trust for the Volkswagen Group – by leaving no stone unturned and with maximum transparency, as well as drawing the right conclusions from the current situation.

Reference 2

Under my leadership, Volkswagen will do everything it can to develop and implement the most stringent compliance and governance standards in our industry. If we manage to achieve that then the Volkswagen Group with its innovative strength, its strong brands and above all its competent and highly motivated team has the opportunity to emerge from this crisis stronger than before."

2015_10_06_Press_Release_12 - 9 references coded

Reference 1

Matthias Müller: "We will overcome this crisis"

Reference 2

Speaking at a works meeting in Wolfsburg today the CEO of Volkswagen Aktiengesellschaft, Matthias Müller, promised employees "swift and relentless clarification" of the emissions scandal.

Reference 3

At the same time he encouraged employees to take heart: "We can and we will overcome this crisis, because Volkswagen is a group with a strong foundation. And above all because we have the best automobile team anyone could wish for."

Reference 4

He added that the company would do everything it could to ensure that Volkswagen continues to stand for good and secure jobs in the future.

Reference 5

Speaking to more than 20,000 employees in Hall 11 at the Wolfsburg plant, Müller made it clear that "apart from the enormous financial damage which it is still not possible to quantify as of today, this crisis is first and foremost a crisis of confidence. That is because it is about the very core of our company and our identity: it is about our vehicles." Müller went on to say that solidity, reliability and credibility belong to the essence of the Volkswagen brand: "Our most important task will therefore be to win back the trust we have lost – with our customers, partners, investors and the general public." According to Müller, the first step toward achieving that was swift and relentless clarification. "Only when everything has been put on the table, when no single stone has been left unturned, only then will people begin to trust us again," Müller said.

Reference 6

For Wolfsburg, that means production can continue."

Reference 7

And it is why we will be intensifying the efficiency program. To be perfectly frank: this will not be a painless process." However, he also gave employees reassurance: "We will do everything we can to ensure that Volkswagen continues to stand for good and secure jobs in the future."

Reference 8

One conclusion, however, was already clear: "Volkswagen must once again stand for more integrity. Not just on paper. But anytime, anywhere. We will make every effort to make very sure that the rules are respected by everyone. This Group and its brands stand for sustainability, for responsibility, for credibility.

Reference 9

together with you, I am determined to prove that our values remain our guide. And that Volkswagen, that each one of us, deserves the trust of people everywhere."

2015_10_07_Press_Release_13 - 1 reference coded

Reference 1

Speaking after the meeting, Pötsch said: "I am grateful to the Supervisory Board for the trust expressed by my election as Chairman. I will do my utmost to uncover the full truth of what happened. I am firmly resolved to make my contribution so that Volkswagen can win back the trust of customers, the

public, investors and business partners. And I believe my central task is to play my part in guiding Volkswagen towards a successful future.”

2015_10_13_Press_Release_14 - 1 reference coded

Reference 1

Diess continued: “Together with my Board of Management colleagues and the entire team we are working at top speed on these issues. Time and again, the Volkswagen team has proved it stands united and is fully focused on shaping the future, particularly when times are tough. We have now laid the further foundations for that.”

2015_10_28_Press_Release_17 - 3 references coded

Reference 1

Müller is confident that “Volkswagen will emerge from the current situation stronger than before”.

Reference 2

The Volkswagen CEO explained that his top priority is to support the customers affected by the diesel issue. “Our customers are at the core of everything that our 600,000 employees worldwide do”, he said.

Reference 3

Müller’s second priority is to systematically drive forward and complete the investigation into what happened. “We must uncover the truth and learn from it”, he said, adding that Volkswagen is being extremely thorough in its analysis.

2015_11_09_Press_Release_20 - 1 reference coded

Reference 1

A series of talks between the Board of Management and the employee representative body will take place over the coming ten days in order to find a common path for the future of the company.

Following today’s meeting, Müller said: “In the present difficult situation we must jointly make decisions that factor in economics just as much as employment. I attach great importance to the views and experience of our works councils. In light of the changed circumstances, we are facing an ambitious task. We will be prioritizing forward-looking products and technologies. Bernd Osterloh and I agree that this is the key factor for reliably safeguarding both the future success of our company and employment.”

2015_12_10_Press_Release_24 - 6 references coded

Reference 1

The Chairman of the Supervisory Board of Volkswagen AG, Hans Dieter Pötsch, told the press in Wolfsburg today: “The Volkswagen Group is fully functional in every respect, even during these eventful days. How, and when we meet the current challenges is primarily – although not solely – up to us. In order to pass this test, we must make an enormous, common effort – and we are all ready to do so.” The Chairman of the Board of Management, Matthias Müller, said: “We are doing everything to overcome the current situation, but we will not allow the crisis to paralyze us. On the contrary, we will use it as a catalyst to make the changes Volkswagen needs.”

Reference 2

The Company has already drawn a key conclusion based on Group Audit’s findings, namely that its testing practice must undergo comprehensive changes. Volkswagen has decided

that in the future emissions test will be evaluated externally and independently. In addition, randomly selected real-life tests to assess emissions behavior on the road will be introduced. Chairman of the Supervisory Board Pötsch stated: “We hope that this will help Volkswagen regain lost trust.”

Reference 3

Pötsch emphasized: “I here and now guarantee that we will pursue our thorough investigation to its conclusion. I vouch for this personally, as does the entire Supervisory Board of Volkswagen AG.”

Reference 4

Matthias Müller, Chairman of the Board of Management, promised: “Volkswagen will not rest until this matter has been resolved once and for all to our customers’ satisfaction.”

Reference 5

Müller explained, “We are realigning Volkswagen strategically and technologically. Our goal is to courageously and decisively participate in shaping the future of mobility.” Among other things, the Group aims to achieve a significant expansion of its sales outside of its current core business. Furthermore, a digitalization and an electrification offensive are being prepared.

Reference 6

In summary, the Chairman of the Board of Management stated: “Although the current situation is serious, this company will not be broken by it. We have a clear mission: we will create a new, better, and stronger Volkswagen. A company that uses its strengths to make the transition to the new world of automobiles. A company that now releases new forces, and takes better advantage of its huge potential. And, last but not least, a company that will be successful over the long term on the basis of strong values.”

EXPLAIN

2015_09_22_Press_Release_2 - 1 reference coded

Reference 1

Discrepancies relate to vehicles with Type EA 189 engines, involving some eleven million vehicles worldwide. A noticeable deviation between bench test results and actual road use was established solely for this type of engine.

2015_09_22_Press_Release_3 - 1 reference coded

At present we do not yet have all the answers to all the questions. But we are working hard to find out exactly what happened. To do that, we are putting everything on the table, as quickly, thoroughly and transparently as possible.

2015_09_25_Press_Release_6 - 3 references coded

Reference 1

Wolfsburg, September 25, 2015 – In the press release dated September 22, 2015, the Volkswagen Group announced that Volkswagen Group vehicles worldwide are affected by the current issues regarding emissions. The internal evaluation revealed that approximately five million Volkswagen Passenger Cars brand vehicles are affected worldwide.

Reference 2

Certain models and model years of these vehicles (such as the sixth generation Volkswagen Golf, the seventh generation Volkswagen Passat and the first generation Volkswagen Tiguan) are equipped exclusively with type EA 189 diesel engines.

Reference 3

The Volkswagen Passenger Cars brand will inform all markets worldwide how many of vehicles are affected locally.

2015_09_29_Press_Release_10 - 1 reference coded

Reference 1

An internal evaluation on Friday established that a service procedure is required for some five million vehicles from the Volkswagen Passenger Cars brand out of a total eleven million Group vehicles worldwide.

2015_10_01_Press_Release_11 - 2 references coded

Reference 1

In seven hours of intense discussions the Executive Committee of the Supervisory Board of Volkswagen AG yesterday (September 30) discussed the current status with respect to the manipulation of diesel engine exhaust emissions.

Reference 2

The Executive Committee came to the conclusion that the completion of investigations will take at least several months.

2015_10_06_Press_Release_12 - 1 reference coded

Reference 1

Müller pointed out that not all the facts were on the table yet.

2015_10_15_Press_Release_15 - 1 reference coded

Reference 1

The Volkswagen Group will recall a total of approximately 8.5 million vehicles in Europe (EU28 markets), including some 2.4 million vehicles in Germany, according to KBA. Outside the EU28, each individual country will clarify in detail which emissions classes of the EA 189 engine are in fact affected.

2015_11_03_Press_Release_19 - 3 references coded

Reference 1

The Volkswagen Group is moving forward with the clarification of the diesel issue: during the course of internal investigations irregularities were found when determining type approval CO₂ levels. Based on present knowledge around 800,000 vehicles from the Volkswagen Group could be affected. An initial estimate puts the economic risks at approximately two billion euros.

Reference 2

Under the ongoing review of all processes and workflows in connection with diesel engines it was established that the CO₂ levels and thus the fuel consumption figures for some models were set too low during the CO₂ certification process. The majority of the vehicles concerned have diesel engines.

Reference 3

reliable assessment of the scale of these irregularities is not yet possible. An initial estimate puts the economic risks at approximately two billion euros.

2015_11_13_Press_Release_21 - 1 reference coded

Reference 1

To what extent models of previous years are affected continues to be looked into in conjunction with the authorities. Based on what is known at present, the Volkswagen Group continues to anticipate that this will be the previously communicated total figure of around 800,000 vehicles.

2015_12_10_Press_Release_24 - 3 references coded

Reference 1

Now, the first significant findings in the investigation of the

nitrogen oxide (NO_x) issue are available. Group Audit's examination of the relevant processes indicates that the software-influenced NO_x emissions behavior was due to the interaction of three factors:

- The misconduct and shortcomings of individual employees
- Weaknesses in some processes
- A mindset in some areas of the Company that tolerated breaches of rules.

Reference 2

It is clear that, in the past, deficiencies in processes have favored misconduct on the part of individuals. This is true, for example, for test and certification processes affecting our engine control devices, which were not suited to preventing use of the software in question.

Reference 3

The information that has been screened to date has largely explained the origin and development of the nitrogen oxide issue. It proves not to have been a one-time error, but rather a chain of errors that were allowed to happen. The starting point was a strategic decision to launch a large-scale promotion of diesel vehicles in the United States in 2005. Initially, it proved impossible to have the EA 189 engine meet by legal means the stricter nitrogen oxide requirements in the United States within the required timeframe and budget. This led to the incorporation of software that adjusted nitrogen oxide emission levels according to whether vehicles were on the road or being tested. Later, when an effective technical process was available to reduce NO_x emissions, it was not employed to the full extent possible. On the contrary, the software in question allowed the exhaust gas treatment additive "AdBlue" to be injected in variable amounts such that the NO_x values were particularly low when vehicles were in the test bay, but significantly higher when vehicles were on the road.

TECHNICAL SOLUTIONS**2015_11_25_Press_Release_22 - 7 references coded**

Reference 1

Wolfsburg, November 25, 2015 – The clarification and solution of the diesel issue is progressing. The Volkswagen Group has presented specific technical measures for the EA 189 engines affected with a displacement of 1.6 and 2.0 litres to the Federal Motor Transport Authority. This means that correction measures have been fixed for the majority of the vehicles affected.

Reference 2

The final technical solution for the 1.2-litre diesel engine will be presented to the Federal Motor Transport Authority at the end of the month and is expected to comprise a software update.

Reference 3

A "flow transformer" will be fitted directly in front of the air mass sensor on the 1.6-litre EA 189 engine. This is a mesh that calms the swirled air flow in front of the air mass sensor and will thus decisively improve the measuring accuracy of the air mass sensor. The air mass sensor determines the current air mass throughput, which is a very important parameter for the engine management for an optimum combustion process. In addition, a software update will be performed on this engine. The time needed for the implementation of the technical measures is expected to be less than one hour.

Reference 4

The 2.0 litre engines will get a software update. The pure labour time for this measure will be around half an hour.

Reference 5

The objective for the development of the technical measures is still to achieve the applicable emission targets in each case without any adverse effects on the engine output, fuel consumption and performance.

Reference 6

According to the current assessment, all measures in the course of the recall for all engine variants will extend over the whole calendar year 2016.

Reference 7

Based on the approach of the Volkswagen brand, the Group's other brands – Audi, SEAT, ŠKODA and Volkswagen Commercial Vehicles – are also planning corresponding measures for their affected vehicles.

2015_12_10_Press_Release_24 - 4 references coded

Reference 1

Technical solutions, which have been positively evaluated by the German Federal Motor Transport Authority ("Kraftfahrtbundesamt"), are now available for the European variants of the EA 189 engine type affected. Volkswagen is thus ensuring that the models affected in Europe will meet all legal requirements in the future. The costs of implementing these solutions will be manageable in technical, manufacturing, and financial terms. The software of the 2.0 and 1.2 liter TDI will be updated. For the 1.6 liter TDI, a so-called flow transformer will be used that increases the measurement precision and, in combination with redesigned software, will optimize injection quantity.

Reference 2

Now that the technical solutions have been approved, Volkswagen is working intensely on plans to implement them. The recall of the highest-volume variant, the 2.0 liter TDI, will begin in January 2016.

Reference 3

The recall of the 1.2 liter TDI is currently scheduled to begin in the second quarter. The implementation phase for the 1.6 liter models is planned to begin in the third quarter to allow time to prepare for the hardware modification. Under the current plan, the entire initiative will take at least all of calendar year 2016.

Reference 4

Due to far stricter nitrogen oxide limits in the United States, it is a greater technical challenge to retrofit the vehicles such that all applicable emissions limits can be met with one and the same emissions strategy.

2015_12_16_Press_Release_25 - 2 references coded

Reference 1

The Volkswagen Group has presented the concrete measures proposed for the EA189 1.2, 1.6 and 2.0-litre engines to the Federal Motor Transport Authority (KBA). After intensive review, the KBA has fully ratified all of the measures. The remedial measures for all affected vehicles are thus confirmed.

Reference 2

The measures for the affected EA189 diesel engines are as follows:

- The 1.2-litre and 2.0-litre engines will get a software update. The pure labour time will be just under half an hour.
- The 1.6-litre engines will also get a software update. In addition, a "flow rectifier" will be fitted right in front of the air mass sensor. The labour time for implementing these measures will be less than an hour.