EXPLORING BUSINESS ETHICS AND RESPONSIBILITY: A CASE STUDY IN THE AUTOMOBILE INDUSTRY

by

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Exploring business ethics and responsibility: a case study in the automobile industry

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Abstract

This case study will delve into Volkswagen's (VW) Environmental Protection Agency (EPA) scandal, popularly known as Dieselgate, to explore how organizational culture and values influenced decision-making processes that triggered a corporate tailspin. The aim is to understand key cultural factors that allowed unethical behavior to persist for an extended period and the extent to which employees felt compelled to remain silent about emissions cheating. Further analysis regarding VW's response to the scandal and its alignment with corporate culture and ethical values should provide insights into how corporate history played a role in the scandal. Data from Yale School of Management Case Study #18-018 will be thematically analyzed against Enron and the British Petroleum (BP) Deepwater Disaster to provide comparative phenomena. Lastly, to enhance validity, a triangulation and peer review strategy seeks to strengthen insight to prevent future ethical lapses despite its limitations on access to corporate data.

Keywords: Dieselgate, VW Scandal, Ethics, Culture, Values, Corporate Responsibility

Introduction

In the late 20th to early 21st century, the EPA began heavily regulating vehicle emissions across the U.S. (EPA, 2023). The Nitrous Oxide (NOx) initiative is tied to an environmental change directive first linked to a 1950s Californian researcher who connected vehicle pollution to Los Angeles's smog. Although the U.S. logistics and supply chains rely heavily on heavy-duty trucking to move goods from coast to coast, many depend on diesel fuel. Although the statistical count for diesel vehicles is a marginal 4% of all U.S. vehicles, a small 3% is medium to heavy trucks (Bureau of Transportation Statistics, 2015). In contrast, over 40% of European cars use diesel (European Environment Agency, 2019). It is without argument that Europe has a love affair with diesel, which is vastly more prevalent than in the U.S.

Given the popularity and superiority of diesel engines over gasoline, many Euro-automotive companies engage heavily in the production of diesel vehicles and engines, with car manufacturers such as Volkswagen, Audi, Bayerische Motoren Werke (BMW), Porsche, and Mercedes-Benz to name a few (Titov, 2023). One such company with a long-standing history and tradition that goes back to World War II, Volkswagen, or People's Car, ran amok in 2015 in a scandal that the company is still recovering from. The violation was discovered by three grad students from West Virginia University, which showed that three European vehicles performed below EPA standards and that the company promptly attempted to hide the facts of the discovery (Bourg-Meyer et al., 2018). Further analysis could prove that corporate culture, historical practices, and leadership styles drive scandals (Jacobs & Kalbers, 2019).

The VW scandal, commonly called the Dieselgate scandal, raised concerns about corporate ethics and responsibility (Jong & Linde, 2022). Although widely discussed and reviewed, gaps remain in understanding the underlying causes that changed VW from an automotive powerhouse to facing financial and reputational damages.

This research examines the Dieselgate scandal further to understand the factors that influenced the ethical lapse, from corporate culture and leadership dynamics, as the company trended downward. A comparative juxtaposition of the VW case against other major corporate scandals like BP Deepwater and Enron intends to draw an understanding of corporate patterns, similarities, and differences in corporate ethics and decision processes that led to significant controversies.

Volkswagen's organizational culture and values were pivotal in the decision-making processes that culminated in the emissions scandal. The critical question is whether a culture of unwavering adherence to leadership existed without questioning their directives, ultimately contributing to unethical behavior persisting for an extended period. Furthermore, the inquiry extends to whether timely leadership intervention could have mitigated corporate damage by promptly alerting lawmakers rather than blaming engineers and employees. These critical questions lie at the heart of understanding how the VW scandal unfolded and the profound implications of organizational culture on corporate ethics and responsibility (Bourg-Meyer et al., 2018).

Therefore, the following RQs were asked:

RQ 1**:** Was there a culture of following the leader without question?

RQ 2**:** Could leadership have mitigated corporate damage if they had alerted the situation sooner rather than redirecting blame to engineers?

Review of the Literature

Volkswagen Scandal

After over a decade of unethical behavior, the VW "Dieselgate" exploded into public knowledge in 2015. The VW company negligently and purposefully manipulated software to alter performance during emissions testing while remaining unchanged under usual driving conditions. The violation affected nearly six years of models or approximately 11 million vehicles worldwide, costing the company almost $32 Billion in fines and settlements (Jacobs & Kalbers, 2019). Furthermore, the event led to the resignation of Mark Winterkorn, VW's CEO (Bourg-Meyer et al., 2018).

The scandal timeline indicates evidence of "normalized deviance", a concept defined by Diane Vaughan in reviewing the Challenger Disaster (Vaughan, 1996, p. 74). The idea of normalized deviance is one in which a series of unsafe practices become a modus operandi of a company, which can be applied to a wide range of examples such as OceanGate's Titan submersible accident, the Challenger disaster, and many aviation accidents (Loudenslager, 2020). Normalization of deviance is not born overnight. However, it is a silent and constant shift in corporate culture, where executives silently agree to the deviations and drive the culture from the top down (Loudenslager, 2020).

VW and Audi 2004 installed software on U.S.-destined vehicles to counter fuel injection noise; this patch lowered sounds during emission tests (Bourg-Meyer et al., 2018). This practice continued until September 18, 2015, when the EPA issued a Notice of Violation after determining that the company neglectfully manufactured and allowed emissions defeat software to run on U.S. diesel vehicles (Jacobs & Kalbers, 2019). Although the VW scandal did not explicitly cost lives like Challenger or Titan, a study surmised that nearly 1,200 lives were tangentially shortened due to health issues exacerbated by corporate negligence (Alter, 2017). Many VW executive suites blamed rogue engineers and befuddling U.S. regulations as the driving cause of the scandal (Groysberg et al., 2016).

Enron and BP Deepwater

The Enron Scandal is one of the US's most significant bankruptcy cases, primarily driven by poor corporate governance, shady accounting practices, revenue inflation, and questionable trading practices (Dibra, 2016, p. 285). Enron mainly dealt in the energy and commodities markets and was founded in 1985 (Bodarenko, 2024). During the 1990s, the US economy was booming with record profits, often known as a bull market;

this helped Enron's exponential growth and fueled the greed of traders (Bodarenko, 2024). Although the scandal is arguably a different flavor than the VW scandal, it still shares a common language and theme.

Although the BP Deepwater Horizon spill was not a scandal, this environmental disaster was one of the largest spills, consisting of nearly 5 million barrels (Pallardy, 2023). The National Commission report to the President broadly identified several flaws ranging from ignorance, gross negligence, shoddy safety controls, largely absent accountability, and insufficient federal controls (Graham et al., 2011). Ultimately, BP and Halliburton, through corporate pressure and negligence, inadequately tested and accelerated the well cement casing to maintain financial goals (Graham et al., 2011). While corporate governance indirectly affected the spill, BP was identified as having essentially negligent safety records dating back several decades. Furthermore, the commission cited that rig workers were unaware of the dangers of cement and largely missed several opportunities to prevent environmental disasters (Graham et al., 2011).

All three preceding examples inarguably share commonalities of leadership, followership, corporate governance, unquestioning obedience, leadership conformity, and failures at multiple corporate levels. The preceding events could have been avoided or mitigated with adequate corporate governance and ethical leadership rather than normalizing deviance (Vaughan, 1996, p. 74).

Leadership and Followership

Max Weber, a 1940s prominent economist and sociologist, defined authority in three major categories: traditional, charismatic, and legal-rational (Conerly et al., 2021, p. 500). Leadership based on existing customs is known as a traditional authority, while one based on personal qualities is understood as a charismatic authority (Conerly et al., 2021, p. 501). A corporation's commonly held authority is based on the office, not the individual, known as a legal-rational authority (Conerly et al., 2021, p. 501). Leadership runs hand in hand, albeit different in application and power source (Joullié et al., 2008). However, leadership and authority empower the dichotomy of followership and leadership (Bright et al., 2019, p. 410) (Collinson, 2006, p. 180).

Although power and authority arrive from various sources, leadership and followership often operate within leaders and followers (Collinson, 2006, p. 179). Followership is sourced from a leader through corporate governance, conformity, compliance, obedience, and influence (Collinson, 2009, p. 260). Blind obedience is not new; the drive to have unyielding compliance is a much deeper psychological topic that needs further exploration. Many scandals have indicated that obedience to corrupt authority leads to known but ignored unethical behavior or unknown unethical behavior (Salama et al., 2020, p. 208).

Corporate Response and Mitigation

Research is varied and wide towards the responsibility of corporations when responding to ethical violations. Similarly, research is wide and varied in defining ethical behavior and boundaries. Research effectively and collectively agrees that corporations have moral and social responsibilities towards employees, trustees, stakeholders, consumers, and customers (Byars, 2018, p. 95). Corporations with ethical behavior and accountability benefit from the stakeholders' psychological reciprocity of loyalty, respect, and business (Bosse et al., 2008, p. 451). However, the caustic nature of humanity creates an ethical paradox in which people in good corporations behave unethically; it is a matter of when and not if (Kaptein, 2022). Although primarily driven by a tug of intrinsic forces from forward moved to stay ahead of the competition or keep up exteriors, less is better (Kaptein, 2022, p. 299). This creates ethical blind spots in good and bad corporations, which inevitably lays the corporations' intrinsic value in the crosshairs (Gitman et al., 2018; Kaptein, 2022).

Research shows that most scandals and ethical violations create significant fiduciary and financial penalties when corporations delay responding (Ichev, 2023). Furthermore, timely response and ethical mitigation strategies reduce damage to a corporation's image, value, and trust (Bundy et al., 2016). The longer the crisis or scandal remains unanswered, the more damage a corporation suffers; a sample case can be made to the extensive damage VW, BP, and Enron suffered considering their violations (Bundy et al., 2016). Mitigation strategies in a crisis management plan include removing the violator, accepting responsibility, clear stakeholder communication, transparency, and taking potential fines (Crandall et al., 2014). The application of crisis management strategies is outside the scope of this research, but it helps define keywords and concepts.

Methodology

The methodology used a case study to take a qualitative approach, which allowed for a multifaceted explorative approach to complex problems common to law, business, policy, and ethical issues. (Crowe et al., 2011). The other methods are inappropriate since the concept involves analyzing multiple cases to develop an in-depth understanding (Creswell & Poth, 2018; Priya, 2021).

Data

Analyzing data gathered by the Yale School of Management, Case Study #18-018, "*Volkswagen Engineering a Disaster*", provided a large dataset from news articles, corporate correspondence, and corporate identity and culture since it was founded. Furthermore, to bring parallel and insight to the case study, two additional case studies will be reviewed to find similarities and differences: the Enron Case Study on Corporate Governance Data and the BP Deepwater Horizon Gulf Oil Disaster Report (Graham et al., 2011; Kendall, 2016).

Procedure

Two main analysis functions were conducted: a Document Analysis and a Content Analysis centered on comparative case study analysis using MAXQDA. Document Analysis reviews internal documents, corporate policies, and memos encompassing emissions compliance, ethics training, and organizational culture. The Content Analysis is derived from Yale's School of Management, which includes public statements and media coverage to understand how VW portrayed its actions and ethical stance. Furthermore, case studies from the Enron and B.P. Deepwater scandals will add contrasts to define commonalities and differences.

Measure/Protocol

After gathering primary and secondary sources, assign thematic codes centered around the ideology of culture, values, ethics, governance, loyalty, communication, crisis management, incentives, and societal culture and apply them to all three case studies, as noted in the first column of *Table 1*(Atkinson, 2002). Once completed, a second round of recording will be followed to expand the initial coding, as noted in the second column of *Table 1* (Atkinson, 2002). The developed codes are rationalized and applied in the third round to answer research questions. (Atkinson, 2002).

Table 1: *Selected Themes and MAXQDA Codes*

Themes	Codes
RQ 1: Was there a culture of following the leader without question?	
Themes	**Codes**
Leadership Conformity	Corporate culture, culture, conformity
Employee Compliance	Conformity, Compliance, Obedience, Loyalty, Engineer, Software
Lack of Dissent	Unquestioning, Obedience, Violation
Obedience Culture	Obedience, Culture, Unquestioning
Leadership Influence	Governance, Influence, Authority, Vision
RQ 2: Could leadership have mitigated corporate damage if they had alerted the situation sooner rather than redirecting blame to engineers?	
Leadership Response Time	Actions, Leadership
Mitigation of Corporate Damage	Mitigation, Transparency, Clarity
Leadership Accountability	Accountability, Responsibility, Leadership
Crisis Management	Crisis, Scandal, Scansis, Management
Leadership Transparency	Transparency, Clearness, Clarity

Validity

Validity and robustness were added to the case study through a triangulation strategy by reviewing multiple data sources and peer reviews. Triangulation aims to reduce uneven weight distribution to one basis or individual, leading to credible findings and a deeper understanding of the phenomena (Mishra & Rasundram, 2017). Lastly, peer review offers a second pair of eyes to act as a filter, ensuring that quality is produced over quantity while ensuring significance and originality (Kelly et al., 2014).

Analysis and Results

Analysis

Analysis of the Yale School of Management, Case Study #18-018, "*Volkswagen Engineering a Disaster*," consisted of heuristic coding by keywords of all documents that fit the themes listed in *Table 1*. Each hit was then reviewed for context and was either coded or rejected based on the substance or existence of the text; see *Tables 2* and *3*. Of the selected keywords, 15 codes were devised, and 188 of 4446 items were found relevant across 41 VW documents. The same codes were used in the Enron and BP case studies, where only 24 of 295 and 41 of 2352, respectively, were relevant. Using the MAXQDA AI-assisted function, all 253 coded selections were summarized and verified for accuracy to ensure quality. The summaries were then scrutinized and reviewed for applicable themes for each case study as the final coding strategy, see *Table 4*.

Table 2:*Keywords with Zero Hits*

Foresight	Allegiance	Fidelity	Devotion
Heritage	Inventor	Laborer	Operative
Transgression	Transparency	Clarity	Candor
Predicament	Alleviation	Moderation	Avoidance
Evasion	Dodging	Shunning	Actions
Deeds	Measures	Steps	Unquestioning
Unconditional	Implicit	Obedience	Civilization

Table 3: *Keyword Analysis*

				BP	VW	Enron	BP	VW	Enron	
Themes	**Total**	**Coded Themes**	**Keywords**	**Frequency**			**Subtotals**			
Leadership Conformity Obedience Culture Leadership Influence Leadership Accountability	3968	Leadership	leadership	24	17	0	140	28	0	168
			guidance	23	3	0				
			direction	14	8	0				
			command	79	0	0				
		Authority	authority	93	45	0	359	490	49	898
			power	75	195	19				
			command	79	0	0				
			control	112	250	30				
		Corporate Culture Loyalty Vision	vision	4	9	6	80	85	20	185
			perspective	10	14	0				
			Insight	0	12	0				
			loyalty	0	5	0				
			culture	63	42	14				
			lifestyle	3	3	0				
		Governance	governance	14	90	21	512	1851	200	2563
			administration	80	15	4				
			management	300	644	52				
			supervision	6	0	0				
			corporate	16	160	26				
			business	53	582	91				
			commercial	28	335	6				
			industrial	15	25	0				
		Obedience Unquestioning	absolute	0	12	0	22	132	0	154
			compliance	15	97	0				
			submission	7	0	0				
			conformity	0	23	0				
Employee Compliance Lack of Dissent	2317	Employee	software	0	102	0	1017	1283	17	2317
			program	166	130	0				
			application	43	43	0				
			system	172	483	5				
			engineer	175	196	0				
			designer	0	4	0				
			developer	0	5	0				
			worker	74	47	0				
			employee	45	269	12				
			rig	342	4	0				
Leadership Response Time Mitigation of Corporate Damage Crisis Management Leadership Transparency	808	Violation	violation	15	20	0	18	36	0	54
			breach	3	11	0				
			infringement	0	5	0				
		Transperancy	openness	0	3	0	0	3	0	3
		Scandal Scansis	scansis	0	13	0	96	378	4	478
			scandal	0	149	0				
			crisis	19	206	4				
			emergency	66	10	0				
			catastrophe	11	0	0				
		Mitigation Responsibility	responsibility	95	100	5	108	160	5	273
			mitigation	7	4	0				
			reduction	6	56	0				
Totals							2352	4446	295	7093

Results

The final themes in *Table 4* were noted across all three case studies. They showed similarities in language and context but a variance in underlying themes.

Table 4: Case Study Major Themes

VW Scandal (Dieselgate)	BP Deepwater Horizon	Enron Scandal
Management Style / Culture	Safety/Risk Management Fails	Recklessness Culture
Authoritarian Governance	Inadequate Procedures	Weak Governance
Engineering Dominance	Inadequate Oversight	Incentive Misalignment
Economic / Political Connections	Compromised Decision Making	Reputational Damage
Accountability /Authority Issues	Lack of Accountability	Market Manipulation
Industry Challenges	Environmental/Regulatory Disputes	Lack of Ethical Leadership
Individual Leadership / Ethics	Profit Prioritization	Profit Prioritization
Profit Prioritization	Contractor Integration	

Figure 1: *Volkswagen Code Relationship Map*

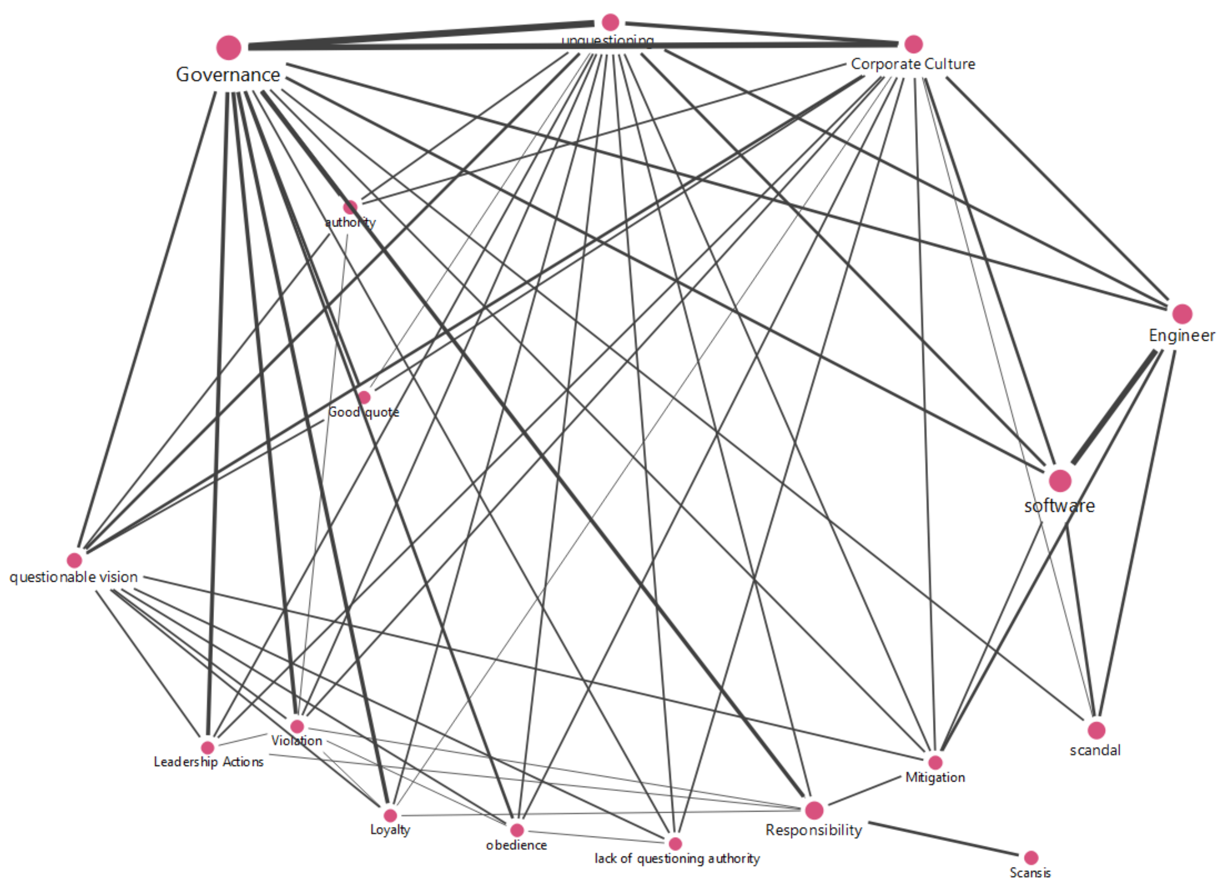
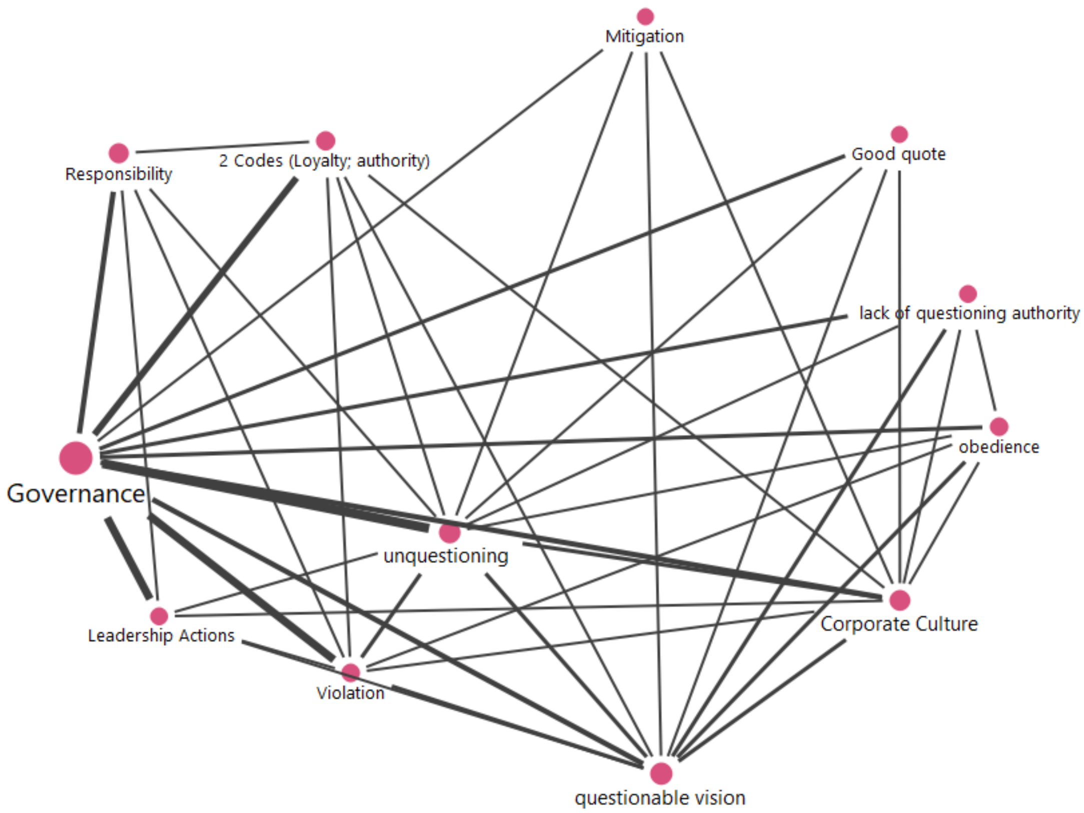


Figure 2: *Enron/BP Relationship Map*



The coded relationship maps in *Figures 1 and 2* provide a solid foundation for comparing the three case studies. Each shares the central theme of fault or failure in corporate governance. Identifying corporate culture, which is cultivated by leadership, whether it was authoritarian culture (VW), poor safety/risk management culture (BP Deepwater), or recklessness culture (Enron), ties back heavily to corporate governance. A common theme across all case studies noted was profit prioritization, in which companies placed profits ahead of ethics, for example, VW US Diesel market entrance at all costs, BP cutting corners to meet oil barrel production, and Enron inflating value through sketchy market practices.

In contrast, the critical components of the Dieselgate scandals were technical, hence the emphasis on "engineer" and "software". Lastly, none were noted in Enron and BP, indicating that management and operational practices were the primary drivers. The VW scandal was driven by a culture of "take no prisoners," while Deepwater was one of safety management failures. Lastly, Enron was one of recklessness and market manipulation.

Regarding RQ1, "*Was there a culture of following the leader without question*?" The review of the summaries and themes highlighted in *Table 1* strongly indicated reoccurring supporting themes. The following list provides the summaries that match the themes:

1. VW Leadership Conformity & Influence, Lack of Dissent, Employee Obedience Culture & Compliance:
   a. Ferdinand Piëch, who led VW as CEO and Chairman of the Supervisory board between 1993 and 2015, drove a culture of fear, terror, and intimidation and demanded success and compliance from employees at all costs, is best noted by the following quote:

"I'll give you the recipe. I called all the body engineers, stamping people, manufacturing, and executives into my conference room…I am tired of all these lousy body fits. You have six weeks to achieve world-class body fits. I have all your names. If we do not have good body fits in six weeks, I will replace all of you. Thank you for your time today." (Bourg-Meyer et al., 2018)

b. Piëch demanded that employees break into the US diesel market at all costs; given his extensive level of influence, acerbity, and brutality, employees felt threatened, as noted by this quote:

   "You will sell diesels in the U.S., and you will not fail. Do it, or I'll find somebody who will." (Bourg-Meyer et al., 2018)

c. VW's governance structure was tension-filled. Codetermination gave workers a significant voice, undermining profitability and functionality, while the supervisory board needed more authority to hold leadership accountable.
d. VW's strong engineering teleology, founded and led by engineers, fostered a telos of technical prowess over ethical considerations—often driving ambitious goals, pushing the edge of innovation and regulation.

As it relates to RQ2, "*Could leadership have mitigated corporate damage if they had alerted the situation sooner rather than redirecting blame to engineers?*", the resulting coded sections and summaries hardly supported the conviction of leadership attempting to mitigate the problem earlier, nor was there any coded sections lending support that leadership was forewarned of the impending scandal. There were exculpations from VW leadership that alleged that the software cheat was a created object of a rouge engineering arm in the company. However, there is a belief that Piëch knew of the cheat, although unconfirmed. Furthermore, no codes supported leadership response time, in which mitigation could have saved corporate trust. There was circuitous support for damage mitigation, leadership accountability, crisis management, and leadership transparency. Those components were highlighted across the case study in which senior leadership took responsibility for the decade-plus-long ethical violation and set a precedent for other corporations to improve and standardize crisis management.

Discussion

The thematic analysis of the three case studies uncovered similarities, albeit slightly different triggering events, but primarily associated with corporate culture. In the case of Dieselgate, senior leadership's capriciousness, intransigently, and mercurial leadership style that ubiquitously permeated the corporate structure led to a taciturn engineering team rather than being bellicose fearing to upheave the halcyon nature of the business. The story of Dieselgate and the subsequent thematic analysis of this case study are similar in their outcomes to other case studies and have primarily shown that "culture counts and that without an ethical culture, both poor and exemplary moral leadership decisions flourish" (Bright et al., 2019, p. 136). When a team feels voiceless and fearful, they proceed prudently with leadership rather than recalcitrantly, as the priority is survival and longevity. Therefore, myopic ethics should be softened to appease leadership. Corporations act egregiously and insouciant to future outcomes when a myopic ethical foundation is proffered. This is primarily seen in Dieselgate, BP Deepwater Horizon, and the Enron Scandal themes (Bright et al., 2019). Each corporation acted surreptitiously in its own right; Dieselgate engineers employed obfuscated software to bypass environmental controls in BP Deepwater Horizon, safety was marginalized to achieve profitability, and Enron engaged in inveigle strategies to game the market and edge profits.

Charles Barnard, in his leadership studies, has shown that leadership that is affable instead of obdurate tends to feed and nurture ethical behavior from the top down. He stated in his values-based leadership that building trust in shared goals and mutual understanding increases the likelihood of success and personal fulfillment (Bright et al., 2019). Business ethics was significantly thrust forward and highly visible after the 2000s when notable companies like Enron, Tyco, and WorldCom committed crimes driven by greed and brought forward federal laws like the Sarbanes-Oxley Act (Bright et al., 2019). A free communication stream and a transparent corporate culture empower employees to make moral choices instead of immoral ones. A stove-piped corporate culture, especially one that is "do or die", ubiquitously fosters taciturn employees. However, the thematic analysis did not implicitly uncover bellicose communication from the engineers at VW, which may have lent to corporate mitigation. Post-scandal activities showed responsibility far too late, leaving a damaging footprint that cost VW billions of dollars and years of credibility. Considering that the case study is primarily dated and the limitations of access to intra-office communication is now limited, it is uncertain if there were islands of engineers opposing the application of obfuscated software to cheat environmental controls. This leads to uncertainty if those voices were suppressed by colleagues or leadership or if leadership was complicit but opted to abdicate to quench further corporate damage graciously.

Conclusion

The study's implication provided direct evidence that corporate culture and values significantly influence the decision-making process from the top down. A silent and compliant workforce will seek to survive at all costs, regardless of ethics. However, initially, it may be questioned, but a continued acceptance sets a normalization of deviance, allowing it to continue to bear fruits. Leaders play a significant role in corporate culture through the personification of clarity and accessibility; an acerbic and capricious leader in the executive suite sets a tone in which avoidance and pacification are promoted. This appeasement can have unethical consequences when the direction is forced to achieve success to meet profit margins. Trimming leadership that fosters that environment early on instead of promoting it could clear the path for those leaders seeking to enhance profits ethically. Early intervention and transparency increase success in decreasing corporate damage to profitability and image. Although the concerns are not systemic across the industry, there have been several cases in which corporate culture facilitated ethical lapses.

Each case study needs to be viewed through its worldview lens as it has its own technical complexities and oversight concerns; future studies could determine how oversight plays a role in corporate culture and response. Having unclear and ambiguous government oversight can foster environments where moral incongruence fosters immoral choices and morality traps to meet requirements. Each case study highlighted a facet of failed corporate governance, each having its unique trigger and boundary. Since the most significant drive is culture and corporate historicity, future studies could narrow the understanding of how a profoundly ingrained corporate history lends to unethical outcomes—in the case of VW, a company heavily invested in engineering excellence at all costs, led to an unethical engineering congress. Although the complex history of a company is not a key indicator, it offers a foundation on which culture is built. It should be stated that each case study had its specific regulatory challenge, which lent a participatory role; as a cautionary tale, each offered uniqueness in context and execution. Future studies could be leveraged to develop a questionnaire-based checklist that would aid leaders in identifying potential ethical pitfalls that could lead to unethical organizational culture as part of leadership governance and culture management. However, future studies should be mindful of suggesting one-size-fits-all solutions and indicators, as each ethical bypass is situationally bounded within corporate culture and governance.

Limitations of Study

There are some limitations to the nature of this case study, some being access and generalization. While Dieselgate is still recent in automotive history, the event is slightly dated regarding access; the topic has been heavily researched as it provides a classic view of corporate culture and governance influencing employee ethics. However, the extensive data foundation lends the study validity through the availability of multiple sources. However, the diluted corporate data has long been relegated to history, and access to corporate documents is severely limited, thereby limiting the depth of analysis of the case study.

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