

Exploring Sustainability (ESG) Fraud: A Taxonomy-Centered Study of Real-World Cases

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Article History

Received: 06.06.2025

Accepted: 18.07.2025

Published: 02.08.2025

Abstract: One of the emerging and rapidly increasing critical issues in the context of sustainability for stakeholders is *sustainability fraud*. This form of fraud has posed a growing threat to Governments, Standard-Setters, Investors, Corporations, and all other stakeholders recently. It is the new face or era of fraud in Today's World. Sustainability fraud contains some wrong, dishonest and misleading ways or methods that emerged in the form of fraud on the way to becoming an excellent business in meeting the requirements of the mandated environmental, social, and governance (ESG) disclosures and reporting standards. This form of fraud encompasses dishonest, misleading, and unethical actions that arise during efforts to comply with ESG requirements, thus representing a transition from excellence to fraud. The purpose of this paper is to offer a comprehensive understanding and conceptual framework on sustainability fraud within the fields of Business Management & Accounting, addressing its distinct characteristics. The study in the paper reviews the current literature surrounding the sustainability fraud landscape, and includes a comparative analysis of sustainability fraud and traditional forms of fraud. In addition, the study reveals key patterns and focal spot dimensions of sustainability fraud on a taxonomy- centered case study analyses. Given that sustainability fraud remains an underdeveloped and relatively unexplored topic in both academia and practice, the findings of the study are expected to offer meaningful insights and contribute considerable value to the ongoing discourse in this evolving landscape of sustainability fraud.

Keywords: Sustainability (ESG), Fraud, Sustainability (ESG) Fraud Taxonomy.

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Introduction

Environmental, social, and governance (ESG)-focused investing has increased rapidly over the last few years. The increase in ESG or sustainable investing has led asset managers to expand their portfolios of ESG-related assets. According to ACFE (Association of Certified Fraud Examiners) & GT (Grand Thornton) ESG Report, "ESG assets grew from \$22.8 trillion to \$35 trillion, and it is estimated that they will reach to \$53 trillion of all assets by 2025" (ACFE & GT, 2022). Additionally, ESG issues have gained significant public attention. Governments and standard-setting institutions have put too much effort on developing regulatory standards, and reporting frameworks. The heightened focus of Governments and standard-setting institutions on ESG including the introduction of mandatory regulations has exerted considerable influence on decision-makers across sector. Within this evolving regulatory landscape, corporations have felt mounting pressure to comply with these regulatory requirements and align their practices with these mandatory standards. Beyond regulatory compliance,

corporations have noticed that robust ESG schemes constitute a fundamental prerequisite for a sustainable business performance, enhanced market valuation, and most critically, the cultivation of stakeholder trust. In this context, ESG initiatives have been essential drivers of long-term business performance of corporations. Additionally, they have become integral to corporate strategy. But, the increasing pressure on ESG reporting performance led corporations to engage in misleading or fraudulent sustainability reporting practices, as well. In other words, the growing emphasis from governments, regulators, investors and all other stakeholders for transparent and accountable sustainability reporting has incentivized many organizations to engage in unethical practices such as greenwashing, greenhushing and other sustainability fraud. As a result, the pursuit of positive ESG schemes linked to financial performance and investment appeal has led corporations to prioritize image over substance.

Sustainability fraud, is a kind of fraud or misconduct which is committed with sustainability data (KPMG, 2020). The practices in the concept of sustainability fraud are commonly labeled in the

Cite this article:

Bircan, N. G., (2025). Exploring Sustainability (ESG) Fraud: A Taxonomy-Centered Study of Real-World Cases. *ISAR Journal of Economics and Business Management*, 3(8), 1-9.

academic and professional literature as “ESG fraud,” “nonfinancial reporting fraud,” “eco fraud,” “eco-friendly fraud,” “green fraud,” or “environmental fraud” reflecting the diverse forms of misconducts in sustainability reporting. Although sustainability fraud is still an underdeveloped and relatively unexplored topic yet, it has emerged as a growing challenge both for decision-makers and corporations. Particularly, the lack of consistent definitions, measurement tools, and enforcement mechanism contributes to the ambiguity surrounding sustainability fraud. In recent years, a surge of high-profile sustainability fraud cases has happened. Active Super, Anglian Water, Danish Crown, Delta, Hefty, HSBC, H&M, Ikea, Lavazza, Lyods, Luton airport, Quorn, Ryanair, Shell, Total Energies, Unilever, Windex are the examples of greenwashing cases which is one of the most frequently seen form of sustainability fraud listed by The Sustainable Agency for the years of 2024 & 2025. Also, one of newest case is DWS, the asset management division of Deutsche Bank. A German asset manager DWS was fined €25 million for overstating its ESG credentials in marketing materials on April 2, 2025. Collectively, these cases point to escalating and threatening prominence of sustainability fraud as a critical issue in corporate governance. Sustainability fraud presents a significant threat to corporate governance, stakeholder trust and more broadly, global sustainability efforts. Various forms of such fraud ranging from greenwashing, greenhushing, greenwashing to misrepresentation of ESG disclosures undermine the legitimacy of ESG reporting frameworks and corporations face substantial legal, financial and reputational consequences. In doing so, they distort market perceptions and mislead stakeholders, and expose corporations to significant legal, financial and reputational risks. Therefore, sustainability fraud has become a key matter on the agenda of all corporations worldwide.

In this study, sustainability fraud within in the fields of Business Management & Accounting was considered by addressing its distinct characteristics This study reviews the current literature surrounding the sustainability fraud landscape, and includes a comparative analysis of sustainability fraud and traditional forms of fraud. In addition, the study reveals key patterns and focal spot dimensions of sustainability fraud on a taxonomy- centered case study analyses. The findings of the study are expected to offer meaningful insights and contribute value to the ongoing scholarly and practical discourse in the evolving landscape of sustainability fraud.

Literature Review

In this study, the literature review was restricted to research published within the last decade, due to time and scope limitations. Within the international academic discourse, it is seen that the concept of sustainability fraud has been predominantly framed under the term *greenwashing*, consist of seven distinct empirical studies. The latest pertinent empirical study published in 2025 examines the distinguish between greenwashing practices and sustainability reports based on a critical perspective by using multiple regression analysis (Mahjoub, 2025). Another empirical research, critically discusses the incompatibility of ESG issues with the interests of shareholders and corporations. This research primarily focuses on greenwashing practices, considering both the role of regulatory bodies in verifying sustainability claims and the function of audit committees in preventing fraudulent ESG disclosures (Crumbley *et al.*, 2024). In line with these

investigations, a third empirical investigation centers on both deceptive and useful sustainability practices, with a specific focus on the concept of greenwashing. It reveals both the dark and white sides of greenwashing practices based on a secondary data collection and review (Yıldırım, 2023). Although a fourth study is not empirical in nature but rather a literature review, it provides an in-depth analysis of greenwashing which is used synonymously with sustainability fraud by considering the policy framework and the audit assignment. It finds out that external, organizational, or individual factors might lead corporations to engage in greenwashing practices by creating the factors of the fraud triangle (pressure, opportunity, and rationalization). The study considers the effect of the policy framework on the audit assignment More overly, it pays attention to corporations that have bad environmental performance, but good communication skills might be more prone to bring about greenwashing by creating the factors of fraud triangle (Sandha & Kurniawati, 2022). Similarly, a fifth empirical study reveals the combination of greenwashing behaviors and poor environmental performance through the fraud triangle. It defines greenwashing behaviors as positive environmental communications. The study uses structural equation method (SEM) and fuzzy-set qualitative comparative analysis (fsQCA) based on primary data from 586 respondents (He *et al.*, 2021). A sixth study which contains the review of the current literature, points out the overlap between the models used for fraud and, the models used for greenwashing. The study adopts the fraud triangle to the greenwashing triangle (Kurpierz & Smith, 2020).

Unlike the previous studies, a broader term; “*environmental, social and governance (ESG) fraud*” has been appeared in a bibliometric and systematic literature review study published in 2024. The study reveals trends and developments in research methods and objects of ESG fraud including ESG fraud triangle and schemes according to 66 academic papers in the field. The findings of the study proves that pandemic is crucial in developing of ESG fraud (Tarjo *et al.*, 2024). Followingly, the term of “*sustainable financial fraud*” which is referred to use of sustainable and unethical practices, thus sustainability fraud has been used in an empirical study done in 2023. The study is designed on the method of Garra Ruffa Fish Optimization Algorithm (CCFDC-GRFOEL) with an ensemble-learning. The findings of the study emphasize that (CCFDC-GRFOEL) method is superior to other existing techniques regarding fraud detection process (Maashi *et al.*, 2023). In line with this study, an empirical study done in 2017, uses the terms of “*sustainability fraud*” and “*Eco fraud*” in a broaden concept. The study is designed on a multi-method approach and focuses on perception and communication of carbon capture and usage (CCU) regarding sustainability fraud (Digmayer & Jakobs, 2017). Similarly, another empirical study published in 2016, explores the issue of potential fraud risk in sustainability departments of corporations by using the term of “*sustainability fraud*”. The study highlights the significancy of a clear commitment from executives to sustainability and adverse developments driven by external stakeholders to prevent fraud in sustainability departments through interview analysis (Steinmeier, 2016).

The review of the relevant international academic literature reveals three major themes that have been the primary focus of scholarly attention:

1. The so-called term is greenwashing as a predominant form of sustainability fraud,

ii. There has been a positive correlation between the combination of bad or poor environmental practices and good communication skills of corporations and their greenwashing practices,

iii. The adoption of the traditional fraud triangle that reframed as the "greenwashing triangle", "ESG triangle", or "sustainability fraud triangle" is the most recommended analytical framework for understanding and assessing greenwashing practices.

Conceptual Framework

Sustainability fraud and its distinct characteristics

Sustainability (ESG) fraud is defined as "a broad term that refers to violations of laws, regulations, internal policies, and all other ethical principles or standards in the corporate environment involving sustainability data" (PwC, 2025). A key aspect of the definition of sustainability fraud is that the fraudulent activity is constructed around sustainability-related data, and primarily involves the deliberate manipulation of such data. In recent academic discourse, the development of sustainability fraud issues has been prominent over the last decade. Researchers have begun to remark, and discuss the potential for ESG fraud, ESG red flags and risks in the implementation of ESG (Tarjo, et al., 2023). However, the forms of fraud appearing in sustainability area not novel, rather previously experienced, and tested fraudulent activities (PwC, 2011). Since, sustainability fraud might be readily perpetrated in combination with traditional forms of fraud

including asset misappropriation, financial statement fraud, and corruption. Sustainability fraud perpetrators might be both internal and external parties like all traditional fraud schemes. But it is not only limited to these traditional fraud schemes. Sustainability fraud might manifest various forms in practice, and some of which are peculiar to the sustainability area that differ sustainability fraud from other traditional forms of fraud. False green labeling, false green advertising, false sustainability disclosures or representations are the specific examples in this context. Regarding these examples, the perpetrator or perpetrators will be most probably sustainability professionals rather than financial or other professionals. Additionally, within the evolving landscape of sustainability, sustainability fraud exhibits greater complexity compared to traditional forms of fraud. Therefore, the risk of sustainability fraud is similarly more complex to manage, and mitigate in organizations. More overly, the assessment of materiality for sustainability fraud risks might be considered more difficult than traditional fraud risks. Understanding of what is material, and what is not in sustainability context has a long distance from the understanding of materiality under Generally Accepted Accounting Principles (GAAPs), regulatory standards and related laws for traditional fraud risks (ACFE & GT, 2022). From a comparative perspective, Table 1 outlines the key distinctions between sustainability fraud and traditional forms of fraud based on the underlying theoretical framework and the relevant sector reports.

Table 1: Comparison of sustainability fraud and traditional forms of fraud*

Categories	Sustainability (ESG) fraud	Traditional forms of fraud
Intent of fraud	Manipulation of sustainability information, and creating a false sustainability image	Manipulation of financial information, and achieving personal gains or benefits
Motivation of fraud	Increasing pressure on sustainability reporting performance, investor attraction, corporation or brand value	Personal financial gains or benefits, pressure on unrealistic organizational targets, pressures from bad habits
Opportunity of fraud	Limited benchmarks, lack of consistent standards, lack of specific knowledge and understanding in evolving ESG area, etc.	Poor internal controls, weak corporate culture & management, lack of internal & external audit mechanisms, etc.
Rationalization of fraud	Organizational defense mechanisms or excuses as regards to sustainability promises	Personal defense mechanisms or excuses as regards to financial expectations
Capability for fraud	Being good at manipulation of sustainability information, having expertise in sustainability reporting, some supporting traits (confidence, intelligence, telling lies, etc.)	Being good at manipulation of financial information, having expertise in financial reporting, some supporting traits (confidence, intelligence, telling lies, etc.)
Perpetrators (fraudsters)	Most likely sustainability professionals	Most likely financial professionals
Victims	Primarily non-investor stakeholders, then all other stakeholders	Primarily investors & creditors, then all other external and internal users
Nature of fraudulent information	Nonfinancial and qualitative	Financial and quantitative
Data subject to fraud	Sustainability data	Financial data
Materials used for fraud	Sustainability indicators	Financial indicators
Detection of risk of fraud	Relatively more complex	Relatively less complex
Assessment of materiality for fraud	Relatively more difficult	Relatively less difficult

* Author's own consideration.

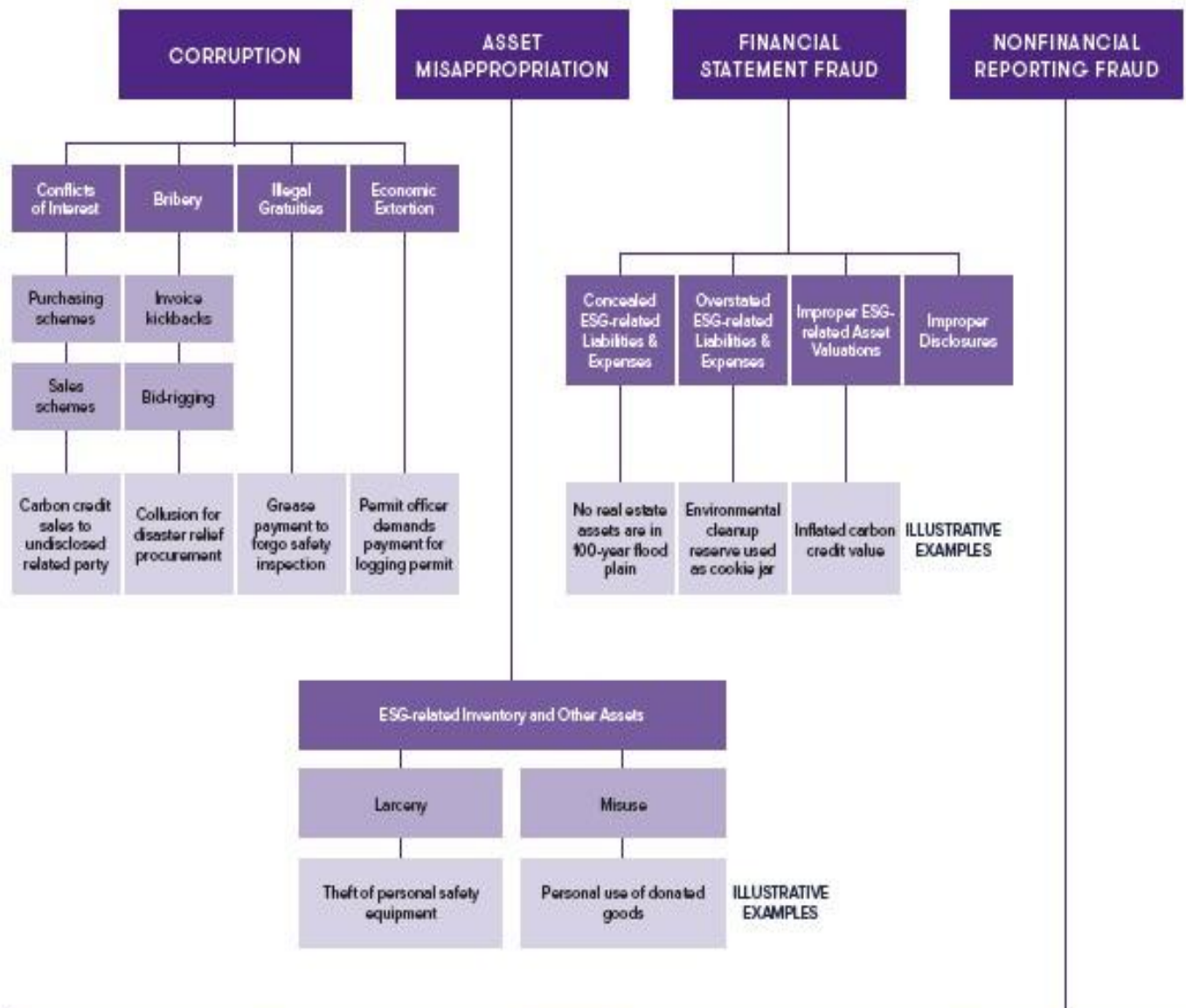
Classification of sustainability fraud according to ACFE- The fraud tree

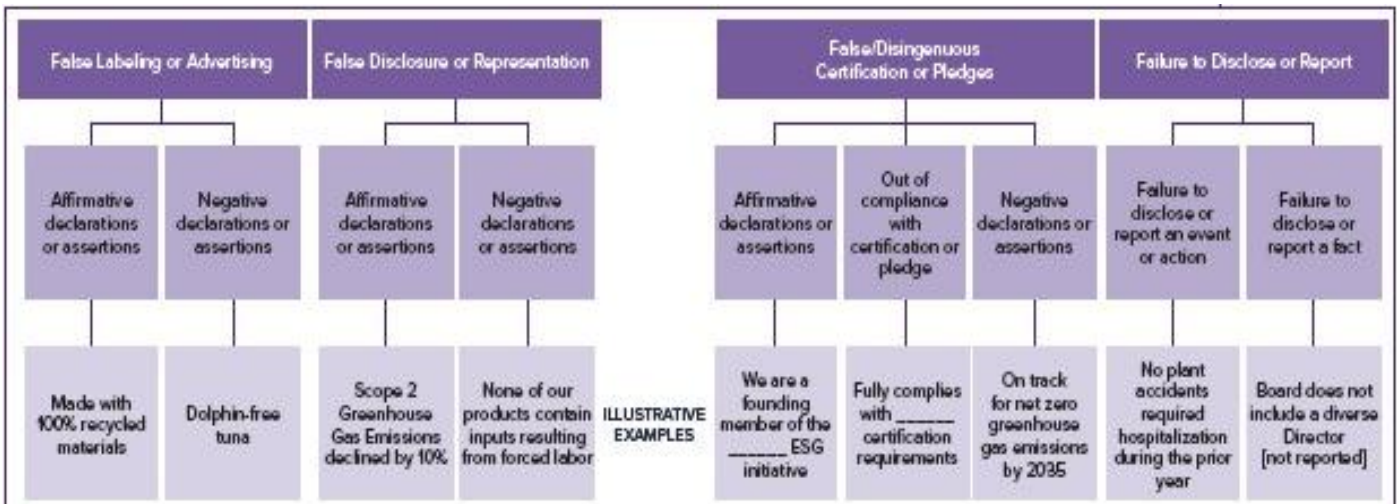
Sustainability fraud might manifest in various ways in practice. The most widely acknowledged examples of sustainability fraud involve practices such as *greenwashing, greenhushing, greenwashing, harvest mixing, jurisdictional bribery, exaggerated or false sustainability-related claims about ESG promises, false or misleading advertising, false green labeling, green shifting, false sustainability disclosures or representations, labor condition concealment, social impact inflation, and governance manipulation*. They represent the most prominent forms of sustainability fraud identified in the literature and the relevant sector reports to date.

As it is known, the fraud tree by ACFE is classified in three fraud categories. These categories are comprised of asset misappropriation (theft), financial statement fraud, and corruption. Sustainability fraud might be committed in adoption of all of these three categories, thus might be classified under all of the three

fraud categories as a sub-category on condition that being related to ESG issues. To illustrate, overstatement of ESG-related liabilities and expenses or ESG-focused investments in the financial statements might be an example of a sub-category of financial statement fraud regarding the fraud tree by ACFE. But, with the development of Grand Thornton’s ESG fraud taxonomy model in 2022, the fraud tree by ACFE has been expanded to the four fraud categories. The fourth category is named “*nonfinancial reporting fraud*” in the model. Additionally, the fourth category is classified in four different sub-categories; false labeling or advertising, false disclosure or representation, false certification or pledges, and failure to disclose or report. By doing so, some forms of sustainability fraud have been separated from the three-fraud category (ACFE & GT, 2022). The model has meant a lot for understanding the different forms, particularly the unique forms of sustainability fraud, and provided a comprehensive classification structure about sustainability fraud from a broader perspective. Grand Thornton’s ESG fraud taxonomy model has presented in Figure-1.

Figure 1: Grand Thornton’s ESG Fraud Taxonomy Model





Source: ACFE & GT (2022), Managing fraud risks in an evolving ESG environment, <https://www.acfe.com/fraud-resources/esg-report-gt-2022>

Red flags of sustainability fraud

The specified red flags of sustainability fraud might be summarized as follows:

- Declaration of business management claims that seem so good to be the truth,
- Selective disclosing of sustainability related issues (highlighting the positive sustainability practices, products or services while ignoring negative practices, products or services which are harmful for sustainability) (Staiger, 2025),
- The use of ambiguous terms like “sustainability sourced,” “eco-friendly,” “zero-waste” , and etc. without any details (Staiger, 2025),
- Inconsistencies in sustainability indicators & disclosures,
- Inadequate or hiding disclosures in sustainability area.
- Lack of transparency in sustainability reporting process,
- Lack of proving or supporting documentation of sustainability initiatives,
- Lack of specific knowledge and ability in sustainability area,
- Lack of third-party verifications or certifications.

Combating with sustainability fraud

Although the process of addressing sustainability-related fraud schemes similarities with traditional fraud risk assessment, sustainability fraud risk assessment specifically concentrates on issues pertaining to sustainability dimensions. The risk of sustainability fraud is crucial for corporations that they might cause manipulation of sustainability reports, misallocation of sustainability-related resources, erosion of stakeholders’ trust, reputational damages, liability risks, financial losses, fines & imprisonment, and as a whole damage of sustainable development goals, globally. Therefore, corporations are required to take proactive measures for combating with potential sustainability fraud risks that might occur in the organizations. From a methodological perspective, the following fraud risk management methods are implemented to prevent corporations from engaging in sustainability fraud (Kassem, 2025).

- Ensuring an effective collaboration among stakeholders, corporations, policymakers, standard-setters, educators, organizational leaders, and auditors,
- Implementing robust verification mechanisms (such as external audits, internal audits and certification programs),
- Monitoring in a regular way, and enforcement including penalties for non-compliance activities,
- Increasing transparency through public reporting and strengthening whistleblower protections,
- Building a cultivable culture involving integrity & transparency,
- Engaging with the sustainable development goals (SDGs) by United Nations through communication on process (CoP) reports.
- Training educators in higher education for raising awareness, fostering critical thinking, mentoring students and collaborating with industry professionals about sustainability risks and claims.

Materials and Methods

This study adopted a qualitative research design, drawing on five different existing real-world cases and an extensive review of the relevant literature from the last decade. The study utilized secondary data sources. The case studies were collected from magazine publications & news including the relevant sector reports, institutional web pages, and systematically analyzed using Grant Thornton’s ESG fraud taxonomy model to identify the categories & sub-categories of sustainability fraud as well as to identify key patterns and insights related to these sustainability fraud schemes. Thus, the fourth category also known as the nonfinancial reporting fraud schemes were mapped in the analyzed cases. The selected and reviewed real-world cases in the scope of the study are stated below.

Case 1- The Volkswagen emission scandal: One of the most popular sustainability-related fraud scandal was The Volkswagen emission scandal also known as Dieseltgate occurred in 2015. The German car manufacturer, Volkswagen has had a major push to sell diesel cars in the US, backed by a huge marketing campaign trumpeting its cars' low emissions (Hotten, 2015). Volkswagen had intentionally created a defeat device in their software which

regulated emissions and produced fake test results in the test box. The primary aim which lays behind the fraud scheme was highlighting the low emissions and pretending to be eco-friendly in the eye of public as a part of their marketing campaign. But, in fact these cars were emitting up to 40 times above the allowed limit for nitrogen oxide pollutants in US. The Volkswagen emission scandal was discovered on September 18, 2015 by the Environmental Protection Agency (EPA). EPA found that the cars produced and sold by Volkswagen in US had a "defeat device" or "software" in diesel engines that could detect when they were being tested, changing the performance accordingly to improve results. The German car manufacturer giant has since admitted cheating emissions tests in the US (BBC, 2015). This fraud scheme has not only caused damage to the environment, but also had a significant financial impact on Volkswagen, itself. At the beginning, the successful marketing campaign promoting the cars for low emissions resulted in a financial benefit, nearly 600,000 cars. However, the German car manufacturer lost about a quarter of its market value after it admitted having misled the authorities. Volkswagen paid over EUR 30 billion in fines and settlements (KPMG, 2020). The scandal affected millions of diesel cars sold worldwide including popular models like the Volkswagen Golf & Jetta, as well as various Audi and Porsche models. Following the revelations, Volkswagen faced extensive legal repercussions, including a historic \$14.7 billion settlement aimed at compensating affected consumers and funding environmental initiatives. More over, Volkswagen's reputation and sales were severely impacted.

Case 2- H&M recycling & sustainable collection scandal: As part its sustainability strategy, H&M launched the Garment Collecting program in 2013. The purpose of the program was to recycle unwanted clothes including promoting a circular fashion model. The initiative encouraged consumers to drop off unwanted clothes at in-store recycling boxes, with assurances that items would be resold, reused, or recycled. Together with their recent business partner, and German recycling group, Remondis the fashion chain can ensure a "sustainable" product chain. According to H&M's annual report, the company collected 14,768 tons of used clothing in one year, claiming 70% were reused, 22% recycled, and only 8% discarded. In April 2019, H&M launched its Conscious Collection, which was marketed as being made entirely from sustainably sourced materials like organic cotton, Tencel, or recycled polyester. However, the Norwegian Consumer Authority criticized H&M for misleading marketing, pointing out that the sustainability claims were vague, inconsistent, and not supported by clear information. Consumers were at risk of making purchasing decisions based on incomplete or deceptive claims (KPMG, 2020). Following, in January 2023, two Swedish journalists conducted an independent investigation by placing Bluetooth air tags on ten garments dropped off at H&M's recycling boxes. After five months of tracking, none of the garments were found in H&M's listed sorting or recycling facilities. Instead, the clothes had traveled internationally and were ultimately dumped in landfills in countries such as Ghana and Benin, which are known for being overwhelmed with second-hand textile waste. In Ghana alone, it was reported that over 1 million garments from H&M's supply chain had been dumped in 2023. The garments were found in open-air landfills, contributing to local pollution, health hazards, and climate change through the release of greenhouse gases. So, in reality H&M used waste and pollution to dominate another group of people in their homeland. Following the publication of the

investigation, questions were directed to Helena Helmersson, CEO of H&M. Helmersson denies the findings and insists that their partner's traceability of the items is more trustworthy than those independently made by the journalists (Tempelaar, 2023). As a result, while the company presented itself as a leader in ethical fashion, the reality revealed that a significant portion of collected garments were not recycled as claimed and instead contributed to global waste dumping, particularly in vulnerable communities in the Global South.

Case 3- DWS greenwashing scandal: DWS Group is a global asset management company majority-owned by Deutsche Bank, with over €800 billion in assets under management (AUM). As sustainability investing gained popularity, DWS promoted itself as a leader in sustainable finance. DWS, the asset management division of Deutsche Bank, has settled a long-running probe by German prosecutors into greenwashing with a multi-million euro fine and the second penalty it has received for overstating its ESG credentials. The asset manager said in a statement on 2 April that the Frankfurt Public Prosecutor's Office had completed its investigation, which focused on whether the €1tn firm overstated its ESG credentials in its 2020 annual report (Ricketts, 2025). Prosecutors concluded that the asset manager used "aggressive" advertising that "did not reflect reality," citing the claim that environmental, social and governance was "part of our DNA" and that the firm was a "leader" in the field as examples. The investigation was launched after a whistleblower complaint from Desiree Fixler, DWS's former head of environmental, social and governance. Fixler alleged that DWS made misleading statements in its 2020 annual report about the size of its ESG assets (Müller & Storbeck, 2025). In addition to ESG concerns, the SEC also found deficiencies in anti-money laundering (AML) processes within one of DWS's advisory subsidiaries. In September 2023, DWS agreed to pay \$25 million to the U.S. SEC to settle charges: \$19 million related to greenwashing and misleading ESG disclosures and \$6 million related to AML compliance failures. As a result of the scandal, DWS and Deutsche Bank faced significant reputational damage and the case fueled growing skepticism of ESG funds and increased demands for transparency in sustainable finance.

Case 4- IKEA the wood certification scandal: IKEA was considered a beacon of a major corporation being sustainable before June 2020 when the furniture retailer was linked with illegal logging in Ukraine and Russia. In a report by NGO Earthsight, the wood certification scheme IKEA had used, Forest Stewardship Council (FSC), was described as an organization that greenwashes the timber industry. IKEA had misrepresented its environmental sustainability efforts, particularly around sourcing wood and using certification schemes like FSC to give a false impression of environmental responsibility. In fact, the FSC certified wood used by IKEA had been illegally harvested from protected old-growth forests in Ukraine and Russia. Investigations by Earthsight (2020-2021) revealed that IKEA sourced wood illegally logged from protected forests in Ukraine (beech wood used in Terje and Ingolf chairs) and Russia (pine wood used in Sundvik children's furniture and Flisat dollhouses). This wood entered IKEA's supply chain despite being FSC-certified, which IKEA heavily promoted as a sign of sustainability. IKEA had claimed that products were sustainable because of FSC certification despite clear evidence the system was flawed. The scandal was exposed through in-depth

investigative journalism by the UK-based environmental watchdog Earthsight (Earthsight, 2020).

Case 5- Exxon Mobil the climate change scandal: Exxon Mobil is the largest oil company in U.S. It had been accused of greenwashing over its carbon capture plan. Exxon Mobil had announced its aims and ambitions to reach net-zero operational emissions by 2050, covering Scope 1 & 2 gas emissions. But the Company declined to include Scope 3 gas emissions from end-use combustion of products which make up roughly 90%.of its total emissions. The net-zero aspirations were outlined in the company's Advancing Climate Solutions 2022 Progress Report, and builds upon previously announced emission-reduction initiatives. The net zero claims were applied to scope 1 and 2 greenhouse gas emission by Exxon Mobil. According to sustainable emission standards, scope 1 emissions refer to the direct emissions coming from the company while Scope 2 refers to the emissions associated with energy they purchase or use to run their operations. Also, Scope 3 emissions, which Exxon's goals make no mention of, refers to the emissions that result from the products they sell in this case, fossil

fuels. For an oil and gas company, “90% of their emissions are Scope 3,” Donaghy told ABC News. As a result, Donaghy says Exxon Mobil's net-zero announcement is “obscuring the real issue here” (Thorbecke, 2022) .

Results and Discussion

Each case was evaluated through the lens of sustainability (ESG) principles using Grant Thornton’s ESG Fraud Taxonomy Model. The fraud schemes identified in the sample cases were examined within the framework of the model’s fourth category- nonfinancial reporting fraud. Accordingly, relevant categories, subcategories, sub-subcategories, and specific fraud schemes were systematically identified and classified. The illustrative examples provided in Grant Thornton’s model were taken into consideration as the primary reference while the sample cases during the identification of the sample cases in the research. As summarized in Table 2, the research findings were derived by evaluating the cases through the lens of ESG principles, utilizing Grant Thornton’s ESG Fraud Taxonomy Model.

Table 2: Classification of nonfinancial reporting fraud schemes in the sample cases

Sample case	The Company	The fraud scheme	The Company’s assertion or claim	Category	Subcategory	Sub-sub category	Corresponding category in traditional forms of fraud
Case 1	Volkswagen	Manipulation of sustainability related standards	“Diesel engines reduced nitrogen oxide emissions by up to 90%”	Nonfinancial reporting fraud	False disclosure or representation	Affirmative declarations or assertions	Financial reporting fraud
Case 2	H&M	Misleading of sustainability claims	“The collection made from 100% sustainable and recycled materials”	Nonfinancial reporting fraud	False labelling or advertising	Affirmative declarations or assertions	Financial reporting fraud
Case 3	DWS	Overstatement of sustainability credentials	“We are leader in sustainable finance”	Nonfinancial reporting fraud	False disclosure or representation	Affirmative declarations or assertions	Financial reporting fraud
Case 4	IKEA	Illegal use of sustainability related sources	“100% sustainable and FSC certified wood in products”	Nonfinancial reporting fraud	False/ disingenuous certification or pledges	Out of compliance with certification or pledge	Asset misappropriation
Case 5	Exxon Mobil	Misleading of sustainability claims	“The net-zero gasses emissions by 2050”	Nonfinancial reporting fraud	False/ disingenuous certification or pledges	Negative declarations or assertions	Financial reporting fraud

All five cases fall under the category of nonfinancial reporting fraud. This categorial consistency highlights the seriousness of sustainability (ESG)-related fraud as an independent and distinct form of corporate fraud. Such homogeneity suggests that sustainability disclosures have increasingly become potential instruments of fraud. The analysis of Table 2 reveals a multifaceted landscape of sustainability-related fraud, where diverse

communicative tactics such as affirmative declarations, false labelling, or manipulated certifications or pledges are employed under the umbrella of nonfinancial reporting. Despite this variety, the underlying intent converges toward misleading stakeholders on sustainability (ESG) performance, with most cases reflecting patterns similar to traditional financial fraud. Notably, the IKEA case (case 4) represents an operational form of deception,

indicating the breadth and depth of greenwashing risks across corporate functions. While the subcategories of fraud vary ranging from *false disclosure or representation* to *disingenuous certification or pledges*, they all converge on one strategy: the strategic exploitation of sustainability narratives to fabricate legitimacy. According to Table 2, “affirmative declarations or assertions” are remarkably prominent (observed in 80% of the cases) as a sub-sub category. The analyzed data indicates a strong association between sustainability fraud schemes in the cases and financial reporting fraud, a well-known traditional form of fraud. Specifically, *Case 1*, *Case 2*, *Case 3*, and *Case 5* involve both financial reporting fraud and nonfinancial reporting fraud. Given these four cases, companies utilized their annual reports to mislead stakeholders by manipulating their sustainability (ESG)-related assets, credentials, or performance indicators. However, *Case 4* differs significantly from the other four cases. It represents another traditional form of fraud-asset misappropriation. In this case, the company illegally exploited sustainability (ESG)-related inventory, namely wood illegally harvested from protected old-growth forests. Case 4 is distinct in that the fraudulent act targeted the physical sustainability resource itself, revealing that ESG-related fraud can extend beyond communication to operational misdeeds.

As a result, the uniform classification of all five cases under nonfinancial reporting fraud underscores the strategic misuse of sustainability (ESG) narratives as independent vectors for fraud practices. Most sustainability-related fraud schemes align with traditional *financial reporting fraud*, suggesting that sustainability manipulation is often embedded within broader financial fraud frameworks. Case 4, however, stands out as an instance of *asset misappropriation*, where sustainability resources themselves become the object of fraud. Also, a notable pattern is the dominance of *affirmative declarations or assertions* (observed in 60% of the cases; case 1, case 2 and case 3), indicating that positive and confident sustainability claims are a prevalent mechanism in sustainability (ESG)-related fraud schemes.

Conclusion

The growing significance of sustainability performance in capital markets, and specifically public perception creates both an opportunity and a temptation for corporations to mislead stakeholders. In an era where sustainability has become a central pillar of corporate strategy and stakeholder expectations, the risk of sustainability fraud poses a significant threat to organizational integrity, investor confidence, and broader environmental and social goals. The absence of harmonized global standards, insufficient verification mechanisms, and the increasing pressure to demonstrate sustainability performance have collectively created conditions in which fraudulent or misleading sustainability practices might flourish. Therefore, sustainability fraud has become an increasingly significant risk for corporations as environmental, social, and governance (ESG) performance gains more attention from investors, regulators, and all other stakeholders.

Sustainability fraud occurs when corporations exaggerate or misrepresent their sustainability efforts such as overstating sustainability-related liabilities, inflating carbon credit values, falsely labeling products as eco-friendly, and etc. One of the primary factors that heightens the risk of sustainability fraud is the absence of universally accepted reporting standards and the limited assurance mechanisms surrounding sustainability disclosures. In

many cases, corporations voluntarily report sustainability metrics without undergoing independent third-party verification, thereby creating significant vulnerabilities for misrepresentation or manipulation. Moreover, sustainability fraud is still underdeveloped, and relatively unexplored topic in both academic literature and practice regarding its distinct character. It is an independent and distinct form of corporate fraud. So, it is crucial to consider and evaluate sustainability fraud schemes on their own parameters. On the other hand, sustainability fraud might be easily combined with any traditional forms of fraud. This form of fraud might adopt itself to asset misappropriation, financial statement fraud or corruption. That creates a multiplied fraud risk effect that is more difficult to mitigate and combat for corporations. Hence, there has been a noteworthy presence of multiplied and combined sustainability fraud schemes in the cases analyzed in the scope of this study. Most sustainability-related fraud schemes in the study have aligned with traditional *financial reporting fraud*, suggesting that sustainability manipulation is often embedded within broader financial fraud frameworks. All five cases have fallen under the category of nonfinancial reporting fraud. Such homogeneity suggests that sustainability disclosures have increasingly become potential instruments of fraud. However, the defined sub categories of sustainability fraud schemes have showed a broad variety. Despite this variety, the underlying intent converges toward misleading stakeholders on sustainability performance, with most cases reflecting patterns similar to traditional financial fraud. As a whole, the analyzed data has indicated a strong association between sustainability fraud schemes and financial reporting fraud in the cases.

To mitigate sustainability fraud risks, corporations need to take proactive, and transparent measures. First, they should adopt globally recognized reporting standards like those from the ISSB, GRI, or ESRS. Independent verification of sustainability data, much like financial audits, might enhance credibility. Internally, companies should integrate sustainability into corporate governance, establishing dedicated ESG oversight committees and linking executive incentives to verified, long-term sustainability outcomes. Training employees, leveraging technologies for real-time monitoring, and creating open channels for whistleblowing are also essential tools in combating sustainability-related misconduct.

As Engelmann, Partner of Forensic Services at PwC Germany says “*a successful company is increasingly distinguished by public’s perception of its ESG positioning*” in the decade of sustainability. That points out a powerful driver of sustainability-related fraud or fraudulent actions. Therefore, all corporations are required to be aware of the risk of sustainability fraud that seriously threatens stakeholders’ trust. Without rigorous oversight, sustainability fraud might undermine the very goals ESG is meant to promote. Academia, regulators, standard-setters, and industry players must collaborate to enhance transparency, enforce accountability, and restore stakeholder trust. Ultimately, addressing sustainability fraud is not only about avoiding penalties. It is about building a resilient, future-ready corporation. In an era where stakeholder trust and ethical business practices increasingly influence valuation and market access, the ability to demonstrate genuine sustainability performance is becoming a strategic differentiator.

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