# Forensic Accounting and Sustainable Business Practices: Strengthening Transparency and Accountability

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## Abstract:

Sustainable business practices increasingly depend on credible corporate reporting, yet sustainability disclosures remain vulnerable to greenwashing, data manipulation and governance failures. This study examines the role of forensic accounting in strengthening transparency and accountability in sustainable business practices. Using a descriptive and exploratory approach, the study draws on secondary data from regulatory bodies, international organisations, research literature, corporate reports and selected Indian and international cases. The findings indicate that forensic accounting can complement audit and sustainability assurance by testing reported information against underlying evidence and identifying inconsistencies. The study concludes that integrating forensic accounting with sustainable business practices can enhance reporting credibility, strengthen governance and improve stakeholder accountability. Forensic accounting can therefore transform sustainability from reported commitment into verifiable corporate responsibility.

## 1. Introduction:

The role of business organisations is increasingly being assessed not only through financial performance but also through their contribution to environmental, social and governance (ESG) objectives. Investors, regulators and other stakeholders now expect companies to provide credible information regarding their environmental impact, social responsibility, governance practices and long-term sustainability. This transition has also increased the importance of reliable sustainability-related information in corporate reporting. The International Sustainability Standards Board (ISSB), through IFRS S1, has established requirements for disclosure of material sustainability-related risks and opportunities that may influence an entity's prospects, cash flows, access to finance or cost of capital. IFRS S1 became effective for annual reporting periods beginning on or after 1 January 2024.(IFRS - IFRS S1 General Requirements for Disclosure of Sustainability-Related Financial Information, n.d.)

Greater disclosure, however, does not automatically ensure greater credibility. Sustainability information often involves estimates, performance indicators, targets and qualitative assertions that may be vulnerable to incomplete disclosure, manipulation or greenwashing.(Lyon & Maxwell, 2011) highlighted the possibility of strategic environmental disclosure in which organisations may emphasise favourable information while concealing less favourable aspects of their performance. Such concerns demonstrate that transparency depends not merely on the volume of information disclosed but also on its reliability and verifiability.

The wider problem of corporate fraud further highlights the need for effective mechanisms of scrutiny. The Association of Certified Fraud Examiners (ACFE) examined

1,921 occupational fraud cases from 138 countries and territories in its 2024 global study and estimated that organisations lose approximately 5% of their annual revenue to fraud. The cases represented more than US$3.1 billion in reported losses. In India, the Reserve Bank of India reported 36,075 bank fraud cases involving ₹13,930 crore during 2023–24. Notably, 89.2% of the value of frauds reported during the year related to frauds that had occurred in earlier financial years, indicating the persistent challenge of timely fraud detection.(Association of Certified Fraud Examiners (ACFE). (2024). Occupational Fraud 2024: A Report to the Nations. ACFE.)

In this context, forensic accounting can extend its traditional role in financial-fraud investigation towards supporting sustainable business practices. Its use of investigative accounting, data analysis, transaction examination, evidence evaluation and fraud-risk assessment can assist in identifying inconsistencies between reported information and underlying evidence. These capabilities may be relevant to environmental disclosures, social indicators, supply-chain information, governance practices and other sustainability-related claims.

The Indian regulatory framework further reinforces this need. SEBI's BRSR Core framework introduced reasonable assurance requirements for specified ESG indicators, with phased applicability from the top 150 listed entities in FY 2023–24 to the top 1,000 by FY 2026–27.

Against this background, the present study examines how forensic accounting techniques can complement different sustainable business practices and strengthen transparency and accountability in corporate reporting. Through relevant literature and selected real-life corporate cases, the study explores the relationship between sustainability-related risks, forensic techniques and the credibility of reported information, thereby positioning forensic accounting as a potential mechanism for more transparent, accountable and sustainable business practices.

## 2. Review of Literature

### 2.1 Forensic Accounting, Fraud Detection and Reliability of Corporate Reporting

The foundation of forensic accounting lies in its ability to investigate irregularities and identify patterns that conventional audit procedures may not adequately detect. (Sharma & Panigrahi, 2013) reviewed the application of data-mining techniques to financial fraud detection and highlighted the usefulness of techniques such as logistic models, neural networks, Bayesian networks and decision trees in identifying fraudulent financial information. (Jofre & Gerlach, 2018) demonstrated that machine-learning and statistical modelling using publicly

available accounting information can assist in distinguishing fraudulent from non-fraudulent companies and can support more targeted examinations. The importance of detecting manipulation extends beyond identifying fraud after its occurrence.

Thus, the literature suggests that forensic accounting is not confined to traditional investigation of financial fraud; its analytical and investigative capabilities can also be relevant wherever reported corporate information may differ from underlying reality. This becomes particularly significant as organisations increasingly communicate their environmental and social performance through sustainability reports.

**2.2 Sustainability Reporting, Greenwashing and the Need for Credibility**

The expansion of sustainability reporting has created a new information environment in which stakeholders increasingly depend upon corporate disclosures to evaluate responsible business conduct. (Michelon et al., 2015) examined sustainability-reporting practices and demonstrated that the quality of sustainability disclosure depends not simply on the amount of information provided but also on its balance, clarity and credibility. The credibility problem becomes more pronounced when sustainability claims are used strategically. (Lyon & Maxwell, 2011) argued that the threat of external scrutiny can influence corporate environmental disclosure behaviour, indicating the importance of independent examination in discouraging greenwashing. Similarly, (Lee & Raschke, 2023) found that firms with weaker ESG performance are more likely to engage in greenwashing, highlighting the possibility that sustainability communication may sometimes be used to improve perceived legitimacy rather than accurately represent underlying performance.

The question therefore shifts from "Are companies disclosing sustainability information?" to "Can stakeholders rely on the information being disclosed?" This distinction has made sustainability assurance an increasingly important area of research. (Hazaea et al., 2022) systematically reviewed 94 studies on sustainability assurance and found that assurance can enhance the credibility of sustainability reports and corporate reputation, while also noting that sustainability assurance remains a developing field.

**2.3 From Sustainability Assurance to Forensic Accounting: The Emerging Connection**

Research on sustainability assurance has established the importance of verification, but the nature of sustainability information creates challenges that may require more investigative approaches. (Yan et al., 2022) after reviewing 87 studies on sustainability assurance, conceptualised assurance as a process involving provider selection, identification, screening, validation and evaluation, thereby emphasising systematic examination of sustainability information. At the same time, advances in analytical techniques have expanded the

possibilities for detecting misleading corporate disclosures. (Calamai et al., 2025) reviewed natural-language-processing approaches for detecting greenwashing in corporate communications, demonstrating how analytical tools can identify potentially misleading environmental claims. More directly related to the present study, (Sun, 2025) examined forensic accounting approaches to ESG reporting and proposed their application to greenwashing, data manipulation and supply-chain opacity, suggesting that forensic techniques can complement conventional ESG reporting mechanisms. Most recently, (Fauziah et al., 2026) mapped 1,285 Scopus-indexed studies on greenwashing, ESG fraud and forensic accounting and identified the convergence of these fields as an emerging research area, while highlighting a continuing forensic gap in sustainability-related misconduct.

The literature therefore establishes three important propositions: first, forensic accounting provides analytical and investigative mechanisms for identifying information irregularities; second, sustainability reporting is vulnerable to credibility problems such as selective disclosure and greenwashing; and third, assurance alone may not fully address the investigative requirements associated with sustainability-related misconduct. However, relatively limited research has systematically connected specific sustainable business practices with specific forensic accounting techniques and demonstrated their practical relevance through real-life corporate cases. This gap provides the basis for the present study, which examines how the integration of forensic accounting and sustainable business practices can strengthen transparency and accountability in corporate reporting.

## 3. Research Methodology

The study adopts a descriptive and exploratory research design based entirely on secondary data. Data are collected from credible sources including SEBI, RBI, ACFE, IFRS Foundation/ISSB, GRI, UN publications, corporate annual reports, BRSR and sustainability reports, peer-reviewed research articles, and documented corporate cases. Documentary analysis and qualitative case analysis are employed to examine sustainability-related risks, including misrepresentation, greenwashing, inadequate disclosure and governance failures. Relevant forensic accounting techniques are mapped against different sustainable business practices to assess their potential role in identifying irregularities and strengthening transparency and accountability. Selected real-life cases are purposively examined to provide practical evidence of the forensic–sustainability relationship. The findings are synthesised through qualitative comparative analysis to develop an integrated perspective on the role of forensic accounting in sustainable business practices.

## 4. Forensic Accounting as a Mechanism for Sustainable Business Practices

Sustainable business practices depend not only on an organisation's actual environmental, social and governance performance but also on the credibility of the information through which that performance is communicated. A sustainability claim becomes meaningful only when stakeholders can rely on the underlying evidence. This creates a natural point of intersection between sustainable business practices and forensic accounting. While conventional sustainability reporting focuses primarily on what an organisation reports, forensic accounting adds an investigative dimension by examining whether the reported information is consistent with available evidence.

Different sustainable business practices generate different forms of information risk. Consequently, a single forensic technique cannot address every sustainability-related concern. Forensic data analytics can identify unusual patterns in ESG indicators and large datasets; trend and ratio analysis can reveal inconsistencies between reported sustainability performance and financial or operational outcomes; document examination and cross-verification can test reported claims against supporting records; while red-flag analysis and investigative accounting can assist in identifying concealed transactions, conflicts of interest, manipulation or deliberate misrepresentation. Digital forensic techniques can further support the examination of electronic records where sustainability-related misconduct is suspected.

| Sustainable business practice | Potential reporting risk | Relevant forensic technique | Expected contribution |
|---|---|---|---|
| Environmental responsibility | Manipulation of emissions, waste or resource-use data | Data analytics, trend analysis, cross-verification | Reliable environmental disclosure |
| Ethical financial reporting | Misstatement or concealment of financial information | Forensic audit, ratio analysis, Benford's Law | Greater reporting integrity |
| Responsible supply-chain practices | Fictitious vendors, concealed relationships or false claims | Transaction analysis, due diligence, investigative accounting | Supply-chain accountability |
| Employee and social responsibility | Misreporting of workforce or social indicators | Document examination, data verification | Credible social disclosure |

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|---|---|---|---|
| Corporate governance | Related-party transactions, conflicts and concealment | Investigative accounting, red-flag analysis | Stronger governance accountability |
| ESG reporting | Selective disclosure and greenwashing | Cross-verification, forensic analytics, NLP-based analysis | Greater transparency and credibility |

The framework indicates that forensic accounting can operate at three interconnected levels: detection, by identifying anomalies and red flags; verification, by testing reported information against underlying evidence; and accountability, by tracing irregularities to responsible processes or decisions. Its contribution therefore extends beyond detecting fraud after it occurs. When incorporated into sustainability-related controls and reporting processes, forensic techniques can function as a preventive and monitoring mechanism.

The integration can consequently be represented as:

**Sustainable Practice → Information Risk → Forensic Technique → Evidence-Based Verification → Transparency → Accountability**

Thus, forensic accounting can complement conventional audit and sustainability assurance by bringing an investigative perspective to areas where the credibility of corporate claims is difficult to establish. The practical relevance of this relationship becomes clearer when examined through real-life corporate cases, where gaps between reported performance and underlying conduct have resulted in significant financial, environmental, social and reputational consequences.

## 5. Real-Life Cases: Evidence of the Forensic–Sustainability Nexus

The relationship between forensic accounting and sustainable business practices becomes more meaningful when examined through actual corporate failures. The following cases demonstrate how weaknesses in sustainability disclosures, financial management and corporate governance can undermine stakeholder trust and accountability. The cases also illustrate how forensic techniques such as data analytics, transaction examination, document verification, red-flag analysis and investigative accounting can provide an additional layer of scrutiny.

### 5.1 Invesco Advisers: Misrepresentation of ESG Integration

In November 2024, the U.S. Securities and Exchange Commission (SEC) charged Invesco Advisers for misleading statements concerning the extent to which ESG factors were incorporated into investment decisions. Between 2020 and 2022, Invesco represented that 70% to 94% of its parent company's assets under management (AUM) were ESG-integrated. The

SEC found that the calculation included substantial assets held in passive ETFs that did not consider ESG factors in investment decisions. It also found that Invesco lacked a written policy defining ESG integration. Invesco agreed to pay a US$17.5 million civil penalty.

From a forensic perspective, the case demonstrates the importance of data reconciliation and cross-verification. A forensic examination could compare reported ESG-integrated AUM with fund-level portfolios, investment mandates and actual ESG-screening practices. The case therefore shows how forensic verification can strengthen the credibility of sustainability-related investment claims.

**5.2 WisdomTree Asset Management: Failure of ESG Screening**

In October 2024, the SEC charged WisdomTree Asset Management over misleading statements concerning the ESG screening processes of three exchange-traded funds. The funds were marketed as excluding companies involved in activities including fossil fuels and tobacco; however, the SEC found that the funds invested in companies involved in activities such as coal mining, oil and gas-related operations and tobacco. The SEC also identified weaknesses in the policies and procedures governing the use of ESG screening data. WisdomTree agreed to pay a US$4 million civil penalty. The three ESG funds were subsequently liquidated in February 2024.

This case highlights the usefulness of forensic due diligence, exception testing and database verification. A forensic review could compare the stated exclusion criteria against actual portfolio holdings and independent information about the activities of investee companies. Thus, forensic procedures can help determine whether sustainability commitments are reflected in actual business or investment decisions.

**5.3 Vale S.A.: Environmental Safety and Sustainability Disclosure**

The Vale case demonstrates the connection between sustainability reporting, environmental responsibility and corporate accountability. In January 2019, the collapse of Vale's Brumadinho dam in Brazil resulted in the deaths of 270 people. The SEC alleged that Vale had made materially false and misleading disclosures concerning dam safety, while its sustainability reports represented that its dams were stable. According to the SEC, the dam had not complied with internationally recognised safety standards for years before the collapse. In 2023, Vale agreed to pay US$55.9 million to settle the SEC's charges, comprising a US$25 million civil penalty and US$30.9 million in disgorgement and prejudgment interest.

The case demonstrates the relevance of document examination, red-flag analysis and evidence reconciliation. Reported safety certifications could be compared with engineering assessments, inspection records, internal risk reports and other underlying evidence. Such

forensic scrutiny can help identify discrepancies before sustainability-related risks develop into severe social and financial consequences.

**5.4 IL&FS: Financial Sustainability and Corporate Governance in India**

The Infrastructure Leasing & Financial Services (IL&FS) crisis provides an important Indian example of the governance and financial dimension of sustainable business practices. The IL&FS group had accumulated liabilities of approximately ₹91,000 crore and came under investigation following defaults by group entities. The Serious Fraud Investigation Office (SFIO) investigation identified alleged irregularities in corporate governance and financial management. In relation to IL&FS Financial Services (IFIN), the investigation identified instances of evergreening of loans, which allegedly helped reduce the recognition of non-performing assets and present a stronger financial position than underlying conditions warranted.

The case demonstrates how transaction analysis, forensic loan examination, related-party analysis and red-flag identification can contribute to responsible financial management. Forensic examination of lending patterns, borrower relationships, repayment records and repeated refinancing could help identify weaknesses that threaten the financial sustainability of an organisation and its stakeholders.

**5.5 DHFL: Forensic Audit and Financial Accountability in India**

The Dewan Housing Finance Corporation Limited (DHFL) case provides an even more direct illustration of the value of forensic accounting. The Enforcement Directorate reported that the CBI investigation concerned an alleged ₹34,615 crore fraud involving a consortium of 17 banks. Subsequently, forensic audits conducted by KPMG and Grant Thornton examined DHFL's transactions and financial records. The Delhi High Court recorded that these forensic audit reports contained detailed analysis of persons and entities involved, shareholding patterns and relevant entries in balance sheets and other financial statements.

The case demonstrates forensic accounting in its most direct form: following transactions, identifying fictitious or suspicious accounts, examining related entities and tracing the movement of funds. It illustrates that transparency cannot be achieved merely through financial disclosure; the underlying transactions and evidence must also withstand investigative scrutiny.

**5.6 Comparative Analysis of Cases**

| Case | Sustainability dimension | Major risk | Relevant forensic approach | Contribution |
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|---|---|---|---|---|
| Invesco | Responsible investment | Overstatement of ESG-integrated AUM | Data reconciliation & cross-verification | Disclosure credibility |
| WisdomTree | ESG investment screening | Inconsistent ESG exclusions | Due diligence & exception testing | Responsible investment |
| Vale | Environmental & social responsibility | Misleading safety disclosures | Document examination & red-flag analysis | Stakeholder accountability |
| IL&FS | Financial & governance sustainability | Evergreening and financial misrepresentation | Transaction & loan analysis | Financial accountability |
| DHFL | Financial responsibility & governance | Fund diversion and suspicious transactions | Forensic audit & transaction tracing | Transparency and recovery |

Collectively, these cases demonstrate that sustainable business practices require more than policies, disclosures and assurance mechanisms. They require the ability to examine whether reported claims, financial information and management assertions are supported by underlying evidence. The foreign cases demonstrate this need in ESG and environmental contexts, while the Indian cases demonstrate its importance for financial and governance sustainability. Across these different contexts, forensic accounting provides a common investigative mechanism through which information can be verified, anomalies can be identified and accountability can be established.

The evidence therefore supports the central proposition of this study: integrating forensic accounting with sustainable business practices can create an additional layer of scrutiny that strengthens the reliability of corporate reporting and, consequently, transparency and accountability.

## 6. Discussion and Conclusion

The analysis indicates that the relationship between forensic accounting and sustainability is complementary rather than incidental. Environmental claims require verification of underlying data; responsible investment requires scrutiny of actual portfolio decisions; social and supply-chain commitments require examination of supporting records; and governance sustainability requires visibility into transactions and decision-making. Thus, different dimensions of sustainability create different forms of information risk, for which forensic techniques can provide targeted scrutiny.

The cases examined demonstrate a common pattern: the gap between reported performance and underlying evidence is where accountability can fail. Forensic accounting

helps narrow this gap by moving from disclosure-based assessment to evidence-based examination. This gives it relevance not only after misconduct occurs, but also as a preventive mechanism for identifying red flags, strengthening controls and discouraging misleading reporting.

The study therefore concludes that forensic accounting can serve as an additional accountability layer within sustainable business practices. Its integration with sustainability reporting, internal controls, audit and assurance can enhance the credibility of corporate information and strengthen stakeholder confidence.

Ultimately, sustainable business is not simply about doing the right things or reporting the right things—it is about being able to substantiate them. In this context, forensic accounting can help transform sustainability from a corporate claim into verifiable corporate accountability.

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