

Reimagining ESG: A Tetralemma Approach to Multifunctional Sustainability Reporting

Organization & Environment

I–20

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sagepub.com/journals-permissionsDOI: [10.1177/10860266251410473](https://doi.org/10.1177/10860266251410473)journals.sagepub.com/home/oea

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Abstract

ESG frameworks have become a central tool for aligning corporate strategies with sustainability imperatives. Yet, by reducing environmental, social, and governance dimensions to standardised metrics, conventional ESG framework risk obscuring the complex ethical commitments that arise from incommensurable societal subsystems. Drawing on Niklas Luhmann's social systems theory, this paper critiques ESG's tendency to privilege specific function systems – science, politics, and economics – while marginalising others such as religion, art, and education. We further introduce the tetralemma, a concept from Indian logic, to illuminate novel ways of reconciling or transcending the paradoxes inherent in integrating these domains. By combining a multifunctional approach with tetralemma thinking, we demonstrate how organisations can expand their reporting scope beyond narrow ESG categories, foster inclusive stakeholder engagement, and respond more effectively to morally fraught sustainability dilemmas. This integration ultimately reframes ESG as a flexible, context-sensitive practice that embraces societal complexity and offers a holistic route to accountability.

Keywords

ESG reporting, sustainability metrics, social systems theory, commensuration, tetralemma logic, corporate accountability

Introduction

Sustainability reporting, the process by which organisations publicly disclose their environmental, social, and corporate governance (ESG) performance, has seen a significant growth in importance over the last decades (KPMG, 2022). Initially a tool for showcasing and later for enforcing corporate compliance, particularly with the sustainable development goals (Gray, 1992, 2010), this form of non-financial disclosure has evolved into a strategic asset for financial products and services, including impact investing or ESG investing (Serafeim, 2023). The basic idea in these spheres is that investors prefer – or ought to prefer – investments in companies demonstrating strong ESG performance, which in turn drives market demand for rigorous sustainability metrics.

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Consequently, impact investing is increasingly understood as ESG integration, where ESG metrics become key factors in investment analyses (Laine, 2024; Schramade, 2016; Tan, 2014; Young-Ferris & Roberts, 2023). Unlike more traditional sustainability-oriented investment strategies, ESG integration does not necessarily exclude specific industries or business models. Instead, it is applied broadly across economic sectors – even those that may appear morally or ecologically contentious – thereby serving as a putatively neutral, data-centric basis for decision-making.

Despite its appealing rationales, ESG integration has also been labelled a reductionist risk management strategy rather than a genuine contribution to business ethics discourse, particularly because it struggles to capture the multidimensional nature of sustainability (Maniora, 2017; van Duuren et al., 2016). Moreover, ESG integration has been framed as a form of objectification or quantification of moral concerns that subordinates ethics to economic principles (Parfitt, 2020, 2024). These critiques connect with a broader stream of scholarship on the power and pitfalls of quantification (Islam & Greenwood, 2022; Järvinen et al., 2022; Lindebaum et al., 2023). Indeed, as scholars have noted (Maniora, 2017), existing ESG frameworks often imply a tacit separation of financial versus ethical dimensions, effectively treating them as distinct – even incompatible – categories. This artificial boundary can be seen in many ESG rating methodologies, which rank firms based on pre-set categories and subfactors rather than examining their embeddedness in broader social systems. Recent discussions in top-tier outlets underscore the complexity arising from such attempts to standardise and compare sustainability metrics (Crace & Gehman, 2023), showing that organisations often focus on only a narrow subset of ‘headline’ ESG issues while neglecting a wider array of social, cultural, and ecological concerns.

Despite the growing use and evident benefits of ESG information in corporate practice and sustainable finance, current ESG reporting remains ill-suited to deliver decision-useful, comparable, and context-aware accounts of sustainability performance. Empirically, disclosure and reported ESG ‘performance’ are highly contingent on national culture and governance environments, which compromises cross-firm comparability (Elmaghrabi et al., 2025; Hassanein et al., 2024). Competitive pressures create proprietary-cost trade-offs that encourage selective or muted reporting (Hassanein & Elmaghrabi, 2025). Inside the firm, governance design – such as board gender diversity and the presence of a sustainability committee – systematically reshapes what is disclosed, thereby inflating variance unrelated to real-world impact (Hassanein et al., 2024; Tahat & Hassanein, 2024). Meanwhile, big-data accounting practices and the turn to AI in green finance increase the volume of indicators without resolving opacity and standardisation problems (Azzam et al., 2024; Hassanein & Tharwat, 2024; Roth et al., 2020). The association between sustainability and financial performance also proves time- and crisis-dependent, limiting the predictive utility of static ESG scores (Hamed et al., 2023). Behavioural gaming persists, with real earnings management correlating with poorer ESG outcomes (Abdelbaky et al., 2024). Finally, macro context – for example, urbanisation and environmental stress – continues to drive firm results in ways that escape generic E–S–G roll-ups, while the sustainable-finance literature itself, despite rapid growth, remains fragmented (Benameur et al., 2025). Together, these patterns indicate a practical problem: ESG reporting, as commonly implemented, struggles to make incommensurable evaluations visible and comparable across contexts, and offers managers little structured help for navigating conflicts among multiple societal value logics.

These limitations echo long-standing critiques in the social and environmental accounting (SEA) literature. SEA scholars have demonstrated how sustainability problems cannot be reduced to isolated domains but require attention to the socio-ecological entanglement of systems (Bebington et al., 2020; Schaltegger et al., 2024). They have shown how reporting frameworks risk oversimplifying or misrepresenting sustainability by compressing diverse concerns into standardised categories (Gray, 2010; Milne & Gray, 2013), and how important sustainability topics may be excluded altogether from corporate reporting regimes (Christensen & Skærbaek,

2007). These insights highlight that many of the problems with ESG reporting are not new discoveries but well-established concerns in SEA research. What remains underexplored, however, is a theoretical account of why such problems persist and how they might be navigated conceptually. This is where a systems-theoretical perspective, enriched with tetralemma logic, can extend the conversation by showing how incommensurable function systems generate structural tensions that resist closure within existing ESG frameworks.

Against this backdrop, we propose a tetralemma-informed, multifunctional approach that keeps ‘both-and’ and ‘neither-nor’ positions analytically open, making cross-system conflicts explicit rather than compressing them into single ESG scores.

In so doing, this conceptual article contributes to the business ethics and sustainability reporting literature by integrating Luhmann’s (1982, 2006, 2013, 2018a) theory of functional differentiation with the tetralemma concept from Indian logic. Neither the theory of functional differentiation nor the tetralemma alone is new; however, combining these two ideas provides a novel lens through which we can revisit and critique the underlying assumptions of ESG reporting. In particular, functional differentiation shows that various societal domains – economy, politics, science, law, religion, education, art, and others – are dissimilar in ways that resist simple commensuration; yet most ESG frameworks simplify or compress these domains into three overarching categories (E, S, G). By contrast, the tetralemma invites a more fluid and flexible approach to handling apparent contradictions, enabling one to conceptualise ‘both-and’ or ‘neither-nor’ outcomes when faced with incommensurable concerns. This perspective helps us see where current ESG frameworks might systematically obscure or flatten moral complexity – an issue that has not received sufficient attention in much of the ESG discourse.

Such an approach is particularly relevant to the debate on commensurability in ESG frameworks, which has so far largely overlooked the functional differentiation of ethical concerns across society’s multiple subsystems.

In this article, we use the term ‘ESG frameworks’ as an umbrella for the institutionalised practices that structure how organisations disclose, evaluate, and integrate environmental, social, and governance concerns. These include (1) reporting standards (e.g., GRI, ESRS, ISSB), which require disclosure of both quantitative metrics and qualitative narratives; (2) rating systems (e.g., MSCI, Sustainalytics), which translate ESG data into scores for comparability; and (3) integration models in finance and investment, which embed ESG criteria into valuation and portfolio construction. Unless specified otherwise, our critique is primarily directed at rating and integration frameworks, where the pressures of quantification and commensuration are most pronounced.

Recent scholarship has highlighted how commensuration involves abstracting and simplifying disparate value sets into standardised metrics (de la Cruz Jara et al., 2025; Espeland & Stevens, 1998; Espeland & Yung, 2019; Folkers, 2025; Schritt & Voß, 2025), yet the emphasis often remains on whether those metrics are accurate or transparent.

Despite extensive efforts to refine ESG metrics, corporate sustainability research still lacks a conceptual framework capable of addressing the incommensurability of ethical logics across different societal domains. As a result, ESG practices tend to standardise moral imagination by translating diverse moral concerns into commensurable indicators of performance. This not only limits theoretical understanding of how sustainability is negotiated across function systems but also constrains corporate practice, as organisations are incentivised to simulate ethical coherence rather than engage with the tensions that sustainability presupposes. Addressing this gap is therefore vital for advancing both sustainability scholarship and practice.

By examining ESG through the lens of functional differentiation, we can ask a deeper diagnostic question: *which dimensions of social life get counted and which remain invisible in existing ESG frameworks?* Building on this diagnosis, our guiding research question is:

How can sustainability reporting better account for the coexistence and incommensurability of multiple moral and functional logics in society?

To explore this question, we combine a social systems theory approach with the concept of tetralemma concept to provide a more comprehensive ESG framework that accounts for the incommensurability of ethical concerns across different function systems. By answering this question, the study aims to move beyond simplistic E–S–G categorisations and develop a multi-functional perspective that highlights observational biases in conventional sustainability metrics.

Accordingly, the following sections detail how commensuration in ESG involves forcing structurally distinct ethical, political, scientific, and economic domains into an overly narrow framework. Drawing on Luhmann's functional differentiation, we demonstrate that ESG's emphasis on environmental and political factors has the unintended consequence of overshadowing other function systems, such as religion or art, which may be crucial to how societies understand and practice sustainability. We then propose the tetralemma logic to help organisations and researchers grapple with the resulting complexity, suggesting that expanding the categories of moral evaluation while retaining a structure for navigating trade-offs can foster more nuanced ESG reporting. The article concludes by reflecting on how this broadened, system-aware, and paradox-conscious approach to ESG can not only deepen theoretical understanding of sustainability reporting but also inform more inclusive and context-sensitive managerial practice.

Moral Issues Associated With ESG Reporting and Integration

While sustainability accounting refers to the generation, analysis, and use of information to support managerial decision-making in pursuit of sustainability objectives (Schaltegger et al., 2022), sustainability reporting denotes the external disclosure of such information to stakeholders, translating internal accounting insights into publicly accessible formats (Burritt & Schaltegger, 2010; Gray, 1992). Within this broader landscape, ESG reporting can be seen as a financially oriented subset of sustainability reporting that focuses on disclosing environmental, social, and governance indicators relevant to investors and rating agencies (Schaltegger et al., 2022). Whereas sustainability accounting and reporting aim to inform organisational learning and transformation, ESG reporting primarily serves market comparability and investment decision-making. This distinction is important, as the growing dominance of ESG frameworks reflects a shift from moral or ecological reasoning towards accounting-based modes of valuation, thereby standardising moral imagination under market-compatible forms of disclosure.

Recent research underscores the vital role of metrics and rating systems in shaping organisational practice (Crace & Gehman, 2023). In the context of ESG, metrics have proliferated as a means to manage, compare, and benchmark corporate progress on environmental, social, and governance factors – albeit with significant ethical and practical complications (Berg et al., 2022; Espeland & Stevens, 1998). Below, we elaborate three key dimensions of ESG frameworks that raise moral concerns, highlighting how attempts to codify and compare ESG outputs can obscure, distort, or politicise broader ethical debates.

The Focus-Shaping Power of ESG Frameworks

One widely observed critique of quantification is its capacity to reorient organisational attention and thus redefine what gets counted as relevant or valuable (Espeland & Sauder, 2007; Lindebaum et al., 2023). In ESG contexts, this phenomenon manifests when predefined metrics prescribe focal points (e.g., carbon emissions, board diversity targets) that become proxies for firm-level sustainability performance. While such data can inspire transparency and accountability, it can also crowd out other important – but less easily quantifiable – dimensions of social and

environmental responsibility (Espeland & Yung, 2019). Paradoxically, managers striving to ‘check boxes’ on rating agency criteria may sideline complex ethical or cultural issues that do not fit neatly into the E, S, or G categories.

In a similar vein, ongoing debates in top-tier outlets point to how ESG focus-shaping often follows regionally or institutionally dominant norms (Crace & Gehman, 2023). For instance, the tendency to emphasise ecological indicators (e.g., climate impact) while lumping culture, religion, and art into a residual ‘social’ category reflects a broader Western bias in defining ‘the environment’ primarily in scientific and technical terms. This, in turn, can constrain meaningful engagement with the multifaceted ways communities define sustainability (Folkers, 2025). Consequently, while ESG metrics may standardise reporting, they also risk standardising moral imagination – a phenomenon that can inadvertently marginalise contextual values or practices.

Quantification as a Mechanism of Control and Power

A second moral issue relates to the capacity of ESG frameworks to shape or reinforce power dynamics. As Islam and Greenwood (2022) note, quantification can serve as a ‘technology of governance’, enabling some actors – such as rating agencies, investment funds, or regulators – to exert influence over organisations, industries, or even entire economies (Lindebaum et al., 2023). This perspective reveals ESG metrics not simply as neutral instruments, but as political tools that determine resource allocations and organisational legitimacy.

Control through ESG metrics is often amplified when key sustainability standards become entwined with popular investment products or risk assessments (Schramade, 2016; Tan, 2014). Companies seeking to attract capital may feel compelled to conform to narrow rating methodologies, potentially overshadowing alternative moral or social priorities (Parfitt, 2020, 2024). Meanwhile, rating agencies frequently function as moral black boxes (Berg et al., 2022): by withholding or obscuring the weightings and calculations behind composite ESG scores, they can wield disproportionate power in defining what constitutes ‘good’ or ‘bad’ corporate citizenship (Esposito & Stark, 2019). This dynamic invites scrutiny into how moral concerns are codified or diluted when aggregated into single scores that mask variation among stakeholder perspectives and local socio-ecological realities.

Moreover, as argued by scholars of commensuration (de la Cruz Jara et al., 2025; Schritt & Voß, 2025), rating systems are not just descriptive but also performative: they reshape corporate priorities and behaviour to align with whichever domains are privileged by the metrics in use. In extreme instances, this dynamic may extend into social or state-driven credit systems, allowing quantitative indices to discipline organisations – and even individuals – into a hegemonic hierarchy of values.

Commensuration and the Reduction of Incommensurable Dimensions

A third and arguably central moral issue is the process of commensuration itself – turning qualitatively distinct concerns into comparable, quantitative terms (Espeland & Stevens, 1998). ESG frameworks operate on the assumption that environmental, social, and governance factors can be brought together under a unified scoring or rating system, often yielding a single aggregated ESG number (Crace & Gehman, 2023). While such commensuration is pragmatically appealing to investors and analysts, it routinely involves what Luhmann (2018b) describes as significant ‘complexity reduction’.

Specifically, this reduction can obscure fundamentally dissimilar values. For instance, ecological or scientific rationales for measuring carbon emissions reflect particular assumptions about environmental impact and planetary boundaries, whereas cultural or religious conceptions of care for the land might not be captured at all, or else are subsumed under broad social

indicators. As a result, essential nuances or context-specific concerns – such as local governance traditions, community stewardship practices, or culturally specific ethical principles – are rendered invisible in aggregated ESG computations.

Such decontextualisation is not limited to non-Western contexts: even within Western corporations, incommensurable function systems (e.g., art, religion, education) can be overshadowed once they are collapsed into an amorphous ‘social’ dimension that rating agencies find difficult to measure or monetize (Young-Ferris & Roberts, 2023). Hence, by uncritically combining environmental, social, and governance aspects within a single framework, ESG ratings may fail to reflect the broader societal differentiation that drives genuinely ethical or sustainable corporate action (Maniora, 2017; van Duuren et al., 2016).

Summary and Transition

Taken together, these three moral issues – focus-shaping, control and power, and commensuration – illustrate that ESG frameworks are not merely neutral or benevolent tools for improving corporate accountability. Rather, they can restrict moral scope by steering attention towards pre-selected categories, reinforce power imbalances by centralising authority in rating agencies and investors, and reduce incommensurable social domains into overly simplistic metrics (Bebbington et al., 2020; Espeland & Yung, 2019; Schaltegger et al., 2024). In the next section, we turn to Luhmann’s social systems theory to show how these moral blind spots are tied to an incomplete recognition of society’s function systems, and to lay groundwork for an expanded framework that addresses the complexities and paradoxes inherent in ESG.

Ethics, Organisation, and Functional Differentiation: A Social Systems Theory Approach

ESG frameworks imply, at least implicitly, a recognition of different domains of societal life – environmental science (E), politics (G), and a broad category of social factors (S). Yet this three-fold segmentation often neglects the fundamental insight that society can also be understood as a complex configuration of multiple, functionally differentiated subsystems, each with its own logic, norms, and blind spots (Luhmann, 2013, 2018a). Drawing on Niklas Luhmann’s social systems theory, this section elucidates how a fuller appreciation of functional differentiation reveals hidden biases in ESG frameworks. In particular, it highlights that categorising performance metrics exclusively into E, S, and G can overlook an array of incommensurable function systems – ranging from religion and art to law and education – and, consequently, neglect the distinct ethical perspectives these systems might offer (Besio & Pronzini, 2014; Valentinov, 2017, 2019).

While the ‘E’ in ESG is conventionally equated with the environment in the sense of *nature* – as conceptualised by the natural sciences – other notions of environment are either neglected or subsumed under the residual ‘S’ category. This stands in sharp contrast to the social-scientific insight that every function system constructs its own view of the environment (Roth & Valentinov, 2020). From a (monotheistic) religious perspective, what natural science labels as ‘the environment’ is better described as ‘creation’. From an artistic perspective, it may appear as a potential source of inspiration or as a barren void. From a legal perspective, the environment may be constituted by an increasing number of (non-human) rights holders (Buitendag, 2025). In other words, there is no single, universally valid concept of environment, but rather a plurality of environments corresponding to the multiplicity of function systems. Against this backdrop, privileging the natural-scientific concept of environment while relegating all others to a catch-all ‘social’ category introduces a serious bias into ESG frameworks. This bias not only

overemphasises the perspectives of natural science (and politics), but also obscures sustainability risks and resources that could be made visible if the environmental constructs of other function systems were recognised on equal footing.

Systems Theory as an Observation of Distinctions

A cornerstone of Luhmann's (1982, 2006) thinking is that all observations are based on drawing distinctions. Inspired by George Spencer Brown's (1979) notion that 'we cannot make an indication without drawing a distinction', Luhmann posited that social systems emerge and operate through self-referential processes of observation. That is, each system—be it politics, economics, religion, or art—'observes' its environment according to its specific code and function (Luhmann, 2013). In this view, economics revolves around the code of payment/non-payment, science around true/false, politics around power/opposition, law around legal/illegal, and so on. These codes are incommensurable, meaning they reflect different distinctions that cannot be seamlessly translated into one another.

When ESG frameworks collapse sustainability concerns into a single numeric score, they effectively try to unify or 'commensurate' these dissimilar logics (Espeland & Stevens, 1998; Espeland & Yung, 2019). While such abstraction is understandable from a practical standpoint – investors, regulators, and rating agencies seek a streamlined view of performance—Luhmann's work points to the inherent risk of simplification: moral or social factors that cannot be measured in strictly scientific, political, or financial terms are either overshadowed or forced into a residual category (Crace & Gehman, 2023). This not only narrows the moral scope of ESG but also potentially perpetuates social blind spots by treating some function systems (e.g., religion or art) as tangential or irrelevant to sustainability (Roth, 2021a, 2021b).

Functional Differentiation and the Incommensurability of Subsystems

Historically, societies exhibited different forms of differentiation – such as stratification into rigid estates or segmentation by families or tribal units (Luhmann, 2013). Today, however, modern societies are characterised primarily by functional differentiation, in which each subsystem performs a distinct societal function (economy, politics, law, science, art, etc.) without a pre-defined hierarchy (Luhmann, 2006; Roth, 2025). No one function system is inherently superior; they coexist yet remain logically dissimilar (Roth, 2021b).

For ESG frameworks, this incommensurability poses a significant quandary: integrating environmental, social, and governance factors under a single measure presupposes that different function systems can be ranked or weighted in a universal manner (Espeland & Stevens, 1998). From a systems-theoretical viewpoint, however, such weighting inevitably reflects observer biases. For example, a strongly politicised perspective might give primacy to governance metrics, whereas a science-oriented approach might privilege climate data over socio-cultural dynamics. Meanwhile, function systems such as education, art, or religion – each of which may play a vital role in shaping local ethics of sustainability – are subsumed under a broad 'social' label and rarely receive focused attention in ESG frameworks (Maniora, 2017).

Ethical Blind Spots in Narrow Differentiation

Narrowly construed ESG frameworks run the risk of moral blind spots in at least two ways. First, by elevating certain subsystems (especially science and politics) as core indicators of 'ethical' performance, they relegate financial or economic dimensions to an amoral or purely instrumental domain – even though many scholars argue that finance itself is inseparable from moral considerations (Parfitt, 2020, 2024). Second, such frameworks systematically overlook other subsystems

whose ethical import becomes visible only if one acknowledges functional differentiation (Roth et al., 2023). For example, religious ethics may undergird grassroots environmental activism in some contexts, whereas artistic practices might play a key role in generating new cultural narratives of sustainability. When these perspectives are not explicitly measured, they are effectively absent from the ESG conversation – leading to a form of structural exclusion (Christensen & Skærbaek, 2007; de la Cruz Jara et al., 2025).

Recent research in Organisation & Environment has similarly emphasised the complexity of sustainability dilemmas that cut across functional divides, including how firms selectively prioritise certain metrics or narratives to suit global investors (Crace & Gehman, 2023). From a systems-theoretical stance, such dilemmas are not merely technical challenges of data aggregation but stem from the fact that different function systems observe moral and ethical concerns through incommensurable lenses (Valentinov, 2019). Attempts at uniform ESG quantification can therefore perpetuate the very lack of holistic understanding they claim to overcome (Folkers, 2025).

Towards a Multifunctional Approach

Understanding ESG tensions through the lens of functional differentiation suggests the need for a framework that neither privileges certain function systems as morally superior nor collapses all systems into a single rating. Instead, a ‘multifunctional’ approach (Roth, 2021a, 2025) would acknowledge that organisations and stakeholders must navigate multiple codes and logics simultaneously (Payán-Sánchez et al., 2018; Plaza-Úbeda et al., 2020). This perspective aligns with calls for more context-sensitive, pluralistic views of sustainability reporting (Islam & Greenwood, 2022; Järvinen et al., 2022), illustrating how socially constructed metrics reflect and reproduce power relationships (Lindebaum et al., 2023).

Yet embracing multiplicity raises a crucial question: *How can organisations manage the complexity of simultaneously considering scientific evidence, political mandates, religious convictions, economic imperatives, and more?* This question leads us directly into the discussion of the tetralemma concept from Indian logic. By enabling ‘both-and’ and ‘neither-nor’ positions alongside standard binary distinctions, the tetralemma approach offers a way to handle the paradoxes that emerge from overlapping function systems. The next section moves from these theoretical foundations to propose a more expansive ethical framework for ESG reporting – one that preserves the necessary complexity of functional differentiation while providing a structured means of navigating it.

Summary

Luhmann’s social systems theory highlights the inherent diversity and incommensurability of function systems in modern society. Applying this lens to ESG underscores why reductionist frameworks can inadvertently obscure ethical considerations, reinforcing biases towards a narrow subset of societal functions. In the following sections, we build on these insights to propose a multifunctional approach – supplemented by the tetralemma – that can more adequately capture and manage the moral complexity of sustainability reporting and integration.

A Multifunctional Approach to Ethical Considerations Around ESG Frameworks

In light of the biases and blind spots outlined above, ESG frameworks stand to benefit from a more expansive conceptual framework – one that acknowledges the heterogeneity of societal function systems and the moral pluralism they entail (Roth, 2021a, 2025). Such a framework

would neither reduce all sustainability concerns to a narrow set of environmental, social, and governance metrics nor treat these domains as ‘add-ons’ to the presumed economic mainstream. Instead, it would recognise that each function system – politics, economy, science, law, religion, art, education, health, media, sport, and more – can generate distinct ethical perspectives on organisational activity (Valentinov, 2017; von Groddeck, 2011). When aggregated or collapsed in ESG frameworks, these perspectives often lose their uniqueness, thereby limiting organisations’ capacity for nuanced moral reflection (Espeland & Yung, 2019; Maniora, 2017).

Beyond the E–S–G Triad: Embracing Functional Diversity

At first glance, expanding ‘E’, ‘S’, and ‘G’ into multiple additional categories – such as art (A), health (H), or religion (R) – seems to complicate existing reporting frameworks (Kleve et al., 2020; Roth et al., 2023). Yet, from a systems-theoretical standpoint, recognising functional diversity is crucial for preventing reductionist forms of commensuration (Espeland & Stevens, 1998). If ESG is to serve as a meaningful proxy for sustainability or ethical responsibility, it must be flexible enough to consider how different domains observe and evaluate corporate activity (de la Cruz Jara et al., 2025; Folkers, 2025). For instance, traditional ESG frameworks might lump health concerns under the broad ‘social’ umbrella, while an expanded approach would treat health as a distinct functional system whose ethical imperative – healthy populations, safe working conditions – is not wholly subsumed by environmental or governance metrics.

Similarly, religion may play an influential role in determining what counts as ethically desirable, particularly in regions where religious norms and institutions actively shape corporate legitimacy (Roth, 2021b). By incorporating religious logics into the sustainability conversation, companies might uncover new forms of social engagement or stewardship that remain unseen when assessed solely through political or scientific codes. Crucially, embracing functional diversity does not imply that organisations should aim to appease every subsystem or produce infinite reporting categories. Rather, it underscores that reducing social reality to three macro-categories can inadvertently exclude ethically significant values and practices (Crace & Gehman, 2023).

Mapping Multifunctional Ethical Evaluations

A key step in operationalising a multifunctional perspective is identifying how different function systems might interpret a single corporate action (Besio & Pronzini, 2014; Valentinov, 2019). For instance, when evaluating a mining operation’s sustainability, a scientific logic might focus on pollution metrics, an economic logic on profitability, a legal logic on compliance, and a religious logic on stewardship of creation (Maniora, 2017). By systematically mapping these perspectives, organisations can reveal points of synergy and conflict across various moral codes (Roth, 2021a, 2025). Even if full consensus proves unattainable – indeed, systems theory posits that consensus across incommensurable functions is inherently elusive – such mapping reduces the likelihood that certain ethical concerns remain chronically overlooked.

Recent scholarship underscores that integrating multiple perspectives can enhance both corporate responsiveness and stakeholder engagement (Järvinen et al., 2022; Lindebaum et al., 2023; Pérez-Valls et al., 2019). For example, organisations might discover that an initiative regarded as positive from a health standpoint (e.g., rigorous employee safety protocols) also fosters trust in the local community’s religious leadership, strengthening social licence to operate. Conversely, they might find that an initiative lauded by climate scientists (e.g., a swift decarbonisation strategy) raises economic anxieties in local communities dependent on fossil-based industries (Schritt & Voß, 2025). A multifunctional approach thus surfaces ethical dilemmas that single or triple-factor ESG metrics often mask under general ‘risk management’ rubrics.

Managing the Resulting Complexity

Acknowledging multiple function systems inevitably introduces a higher degree of complexity into organisational decision-making (Roth, 2021b). Managers might fear ‘reporting overload’ or the impossibility of pleasing every subsystem simultaneously. This concern is valid, but systems theory reminds us that complexity is not a purely negative attribute; it is also the source of organisational flexibility and adaptability (Luhmann, 2013, 2018a). By engaging with function systems that ESG traditionally sidelines (e.g., religion, art, or education), companies broaden their repertoire of responses to sustainability challenges, potentially discovering new forms of innovation or collaboration (Young-Ferris & Roberts, 2023).

However, complexity must be managed rather than simply acknowledged. As will be shown in the next section on tetralemmas, paradox or apparent contradiction across function systems can spur creative reconfigurations of corporate goals and stakeholder relationships (Roth et al., 2023; W. K. Smith & Lewis, 2011). A structured methodology for deliberating multiple, sometimes conflicting, ethical lenses offers a pathway to harness, rather than suppress, complexity. In this sense, a multifunctional approach to ESG departs from purely quantitative or rankings-focused solutions, inviting a layered qualitative understanding of how disparate moral orders converge or clash in specific organisational contexts (Crace & Gehman, 2023; Espeland & Yung, 2019).

Towards a Structured Process of Integration

Finally, a multifunctional approach does not mean abandoning numbers or metrics altogether. Quantitative indicators remain valuable for accountability and comparability – especially when stakeholders demand transparent benchmarking (Schramade, 2016; Tan, 2014). Instead, the approach calls for expanding and refining what gets measured and how metrics are interpreted (de la Cruz Jara et al., 2025). Organisations may, for instance, design ‘hybrid’ measures (Pérez-Valls et al., 2016) that draw on multiple subsystems – for example, tracking health outcomes alongside economic profitability or measuring local cultural vitality in tandem with greenhouse gas emissions. Such expansions can be guided by participatory processes that involve a broader range of stakeholders, thus democratising the decisions about which variables truly matter (Islam & Greenwood, 2022; Lindebaum et al., 2023).

A robust multifunctional framework would therefore unite rigorous measurement with interpretive nuance, using the best available data without discarding the ethical perspectives that resist conventional quantification (Berg et al., 2022). In practice, this shift might look like companies adding ‘S’ subdivisions for social subdomains – culture (SC), education (SE), health (SH), etc. – or adopting scenario-based reporting that accounts for region- or context-specific moral considerations. Regardless of the precise structure, the guiding principle remains to incorporate rather than eliminate the heterogeneity of societal values and logics.

Summary and Transition

Conventional ESG frameworks underscore the need for accountability yet often falls short in capturing the multiplicity of moral viewpoints embedded within society’s function systems. A multifunctional approach, by contrast, challenges the assumption that E, S, and G can exhaustively represent the complexity of sustainability challenges (Maniora, 2017; Roth, 2025). It encourages organisations to explore ethical dimensions that transcend neat categorisations, while retaining a means of systematic analysis. In the next section, we delve into how the traditional Indian concept of the tetralemma can help navigate the paradoxes and dilemmas that surface

when managers and stakeholders acknowledge more than three societal subsystems in their sustainability calculus.

From Ethical Dilemmas to Tetralemmas of ESG Frameworks

Even when organisations strive for a multifunctional approach that acknowledges varied social function systems, managers often face ethical dilemmas and paradoxical tensions (Schad & Bansal, 2018; W. K. Smith & Lewis, 2011). For instance, a mining company might find that minimising environmental harm (aligned with scientific and ecological principles) conflicts with maintaining profit margins (aligned with economic imperatives) and local employment (aligned with social or political stability). Traditional either-or logic requires managers to prioritise one aspect over another, potentially neglecting the full complexity of sustainability. In response, some scholars have advocated a ‘both-and’ perspective (Putnam et al., 2016; W. Smith et al., 2017) that reconciles competing demands, yet this approach still risks framing ethical trade-offs as binary options with a single integrative solution. This section proposes the tetralemma concept, drawn from Indian logic, as a structured way of expanding the repertoire of possible responses to sustainability dilemmas.

The Four (and Sometimes Five) Positions of the Tetralemma

The tetralemma, originally developed in the context of classical Indian philosophy and jurisprudence, explores four logical positions: ‘this’, ‘not this’, ‘both this and not this’, and ‘neither this nor not this’ (Fritzsche, 2025; Kleve et al., 2020). A fifth position – the so-called ‘neither-nor of the neither-nor’ – is sometimes introduced to negate or transcend the prior four, enabling the problem to be reframed altogether (Roth et al., 2023). Translated into managerial contexts (Pina e Cunha et al., 2021), these options invite organisations to see beyond binary or even dialectical conceptions of paradox, offering a flexible yet systematic way to navigate multidimensional conflicts. In the ESG domain, the four core positions can be adapted to help managers avoid prematurely collapsing incommensurable factors into a single trade-off decision:

1. This (1): Affirming one position – for example, ‘political demands must take precedence’.
2. Not this (0): Rejecting that same position – for instance, ‘political demands must not take precedence’.
3. Both this and not this (1–1): Acknowledging that political demands may indeed be relevant while also recognising they cannot solely dictate corporate action.
4. Neither this nor not this (0–0): Suspending judgement on political demands altogether to consider new framings or solutions.

Rather than forcing a company into ‘embrace the environmental standard or reject it’ decisions, the tetralemma logic allows managers to imagine a scenario where certain environmental measures can be both ethically indispensable and incomplete, or simultaneously necessary and insufficient for achieving broader social objectives. By considering ‘both’ and ‘neither’ positions, organisations can surface creative pathways that integrate or transcend conventional trade-offs (Roth, 2025).

The novelty of applying the tetralemma to ESG frameworks lies in expanding the repertoire of available responses beyond what paradox theory or commensuration studies currently provide. Whereas paradox theory encourages ‘both-and’ integration and commensuration highlights the risks of reduction, the tetralemma adds the underexplored options of ‘neither-nor’ and ‘none of the above’. These positions are not abstract curiosities: they are practically necessary in contexts

where integration is infeasible, such as when ecological imperatives, economic viability, and religious or cultural stewardship clash irreconcilably. By legitimising suspension and reframing, the tetralemma offers managers a structured grammar for working through incommensurable demands without prematurely collapsing them into headline ESG scores. This combination of conceptual novelty and practical necessity underscores why tetralemma logic represents more than a philosophical extension – it constitutes a distinctive and operationally relevant framework for managing the complexity of sustainability dilemmas.

Linking Tetralemmas to Paradox Theory in Sustainability

Although the tetralemma resonates with the growing paradox literature (Schad et al., 2016, 2019; W. K. Smith & Lewis, 2011), it offers an expanded framework for dealing with incommensurable domains. Paradox theory highlights how organisations must sometimes pursue competing goals in tandem, as with the simultaneous demand for short-term financial results and long-term environmental stewardship (Schad & Bansal, 2018). However, many paradox approaches encourage a ‘both-and’ mind-set without fully reckoning with cases where ‘both’ is impossible or suboptimal (Fritzsche, 2025).

In contrast, the tetralemma logic underscores that even ‘both-and’ can become limiting if taken as the only integrative solution (Roth et al., 2023). By systematically including ‘neither-nor’ and ‘none of the above’ options, the tetralemma opens discursive space for problem reframing. For example, a firm grappling with climate goals versus local economic development might discover that neither climate nor local economy is the core dilemma; rather, the real challenge could be an outdated business model that fails to harness new forms of renewable energy. In this scenario, the firm might sidestep a rigid debate over ‘either we prioritize climate or we preserve jobs’ by introducing a more disruptive alternative – one that invests in new technology, thus transcending the initial binary altogether.

Tetralemmas as a Tool for Multifunctional ESG Complexity Management

Translating tetralemmas into ESG decision-making requires concrete mechanisms for organisational deliberation. Managers might begin by explicitly articulating the conflicting function systems relevant to a particular sustainability issue. For example, if a firm’s project intersects science (ecological viability), politics (local governance and regulations), economics (profitability and employment), religion (cultural values of stewardship), and media (public discourse), managers can construct a matrix of positions for each function system (Roth et al., 2023). Within this matrix:

1. Identify ‘this’: The position the firm is inclined to adopt – for instance, ‘Invest heavily in green technology’.
2. Identify ‘not this’: The counter-position—‘Do not invest in green technology (focus on short-term returns)’.
3. Evaluate ‘both’: Look for compromises or synergies—‘Adopt partial green measures while retaining legacy operations’.
4. Consider ‘neither’: Investigate solutions outside the initial frame—‘Shift entirely to an alternative product line that aligns with local cultural practices’.

Each step is accompanied by reflecting on how different function systems might interpret or value each option (see Figure 1). By doing so, the firm systematically ‘walks through’ multiple possibilities without prematurely discarding any due to a narrow ‘either-or’ viewpoint. This

	POL	ECO	SCI	REL	ART	LAW	SPO	HEA	EDU	MED
+	1	0	1	1	0	0	0	0	0	0
-	0	1	1	0	0	0	1	1	1	1

Figure 1. Multifunctional Tetralemma Analysis Across 10 Social Domains (Authors Provided).

deliberative process can also involve stakeholders from across social domains, thus democratising how ESG metrics shape strategic decisions (Islam & Greenwood, 2022).

As illustrated in Figure 1, one and the same event or issue may be perceived not only as either positive (+1/-0) or negative (+0/-1), but also as both positive and negative (+1/-1) or as neither positive nor negative (+0/-0). In this sense, the square in Figure 1 depicts a situation in which an event is regarded as negative from an economic perspective (0 1), positive from a religious one (1 0), ambiguous from a scientific perspective, as evidence supports both positive and negative aspects (1 1), and indifferent from an artistic perspective, as the event offers no significant potential for artistic inspiration or exploration. In this sense, the square in Figure 1 contains all four basic positions of the traditional Indian tetralemma.

Practical Implications and Potential Pitfalls

While the tetralemma approach can illuminate overlooked solutions, it is not a panacea. For one, real-world decision-making often faces urgency, cost pressures, and political constraints that limit the time or willingness to explore multiple positions (Lindebaum et al., 2023; Schramade, 2016). Moreover, some actors may exploit the openness of the ‘neither–nor’ stance to evade accountability – claiming that any single measure is too simplistic, while failing to propose a viable alternative (Parfitt, 2024). Hence, caution is needed to ensure that the tetralemma does not become a rhetorical device for stalling or diluting meaningful ESG commitments.

Nevertheless, examples of organisations adopting something akin to a tetralemma mind-set do exist (Kleve et al., 2020). Certain multinational corporations, for instance, have moved beyond minimal compliance or best-practice templates by explicitly partnering with religious communities to shape carbon neutrality goals or by investing in cultural revitalisation initiatives that align with local artistry – steps that reflect not just political or economic logic, but also a broader moral ethos (Maniora, 2017; Roth, 2021a). Although not formally labelled as ‘tetralemmas’, these strategies represent a willingness to step outside conventional ESG toggles and consider ‘both–and’, ‘neither–nor’, and even more radical reimaginings of corporate purpose.

Enabling Organisational Learning and Ongoing Adaptation

Finally, adopting the tetralemma stance may foster a learning orientation in ESG processes (Schad & Bansal, 2018). By cycling through multiple logical positions, managers can capture a broader range of feedback signals and re-evaluate how each choice resonates with different societal function systems. Over time, organisations may refine their ESG strategies through iterative experimentation, building internal capabilities for recognising and managing ethical paradoxes (W. Smith et al., 2017). This learning process resonates with calls for reflexive forms of sustainability governance, in which organisations remain open to revising and expanding their metrics in light of new knowledge and evolving stakeholder values (Crace & Gehman, 2023).

In sum, the tetralemma introduces a structured way of grappling with incommensurable or conflicting demands, extending beyond the familiar dualistic or ‘both–and’ frames of paradox

theory (Fritzsche, 2025; Roth et al., 2023). In the context of ESG frameworks, such a tool can empower organisations to see conflict as a catalyst for discovering innovative paths – ones that preserve ethical complexity without succumbing to paralysis. In the final section, we bring together the arguments of this paper to outline how a tetralemma-informed, multifunctional ESG framework can help reorient sustainability discourse towards richer, more inclusive, and context-sensitive forms of corporate responsibility.

Conclusions

ESG frameworks constitute one of the most widely adopted tools for addressing sustainability challenges – yet, as this paper has argued, such frameworks often obscure the complex moral considerations that arise from modern society's functional differentiation. By collapsing inherently distinct domains (e.g., science, politics, law, religion, art) into three macro-categories (environmental, social, governance), conventional ESG approaches risk overlooking ethical perspectives that do not easily fit these predefined boxes (Crace & Gehman, 2023; Espeland & Stevens, 1998; Parfitt, 2020, 2024). As a result, current ESG practices can lead to a narrowed moral scope, generate power imbalances favouring rating agencies and standardised metrics, and create dilemmas in which organisations struggle to address divergent stakeholder values (Berg et al., 2022; Lindebaum et al., 2023).

Drawing on Niklas Luhmann's social systems theory, we showed that such blind spots reflect the broader challenge of commensurating multiple, incommensurable function systems (Luhmann, 2013, 2018a). ESG's tendency to prioritise scientific, political, and economic codes within its reporting architecture effectively sidelines other subsystems (e.g., religion, education, art), which may be central to how certain communities conceptualise sustainability (Roth, 2021b; Valentinov, 2019b). The consequence is not merely technical measurement error but a systematic tendency to treat certain ethical standpoints as secondary or invisible. Yet, as highlighted, sustainability issues frequently depend on navigating precisely these plural moral landscapes, wherein not only politics and science, but also law, art, education, or religion might all demand a say.

In response, this paper proposed a twofold extension of conventional ESG. First, a *multifunctional approach* broadens the range of societal function systems considered in sustainability evaluation (Roth, 2021a, 2025). Instead of merging diverse logics into a single ESG score, organisations can explicitly map how each subsystem – politics, economy, science, law, art, religion, media, education, and so forth – shapes moral priorities and performance metrics (Besio & Pronzini, 2014; Espeland & Yung, 2019). While doing so raises complexity, it also reveals fresh opportunities: new forms of cross-functional synergy, previously unrecognised cultural or local wisdom, and a fuller appreciation for the moral ambiguities of sustainability (de la Cruz Jara et al., 2025; Kleve et al., 2020).

Second, we introduced the *tetralemma* as a structured method for managing the paradoxes that arise when functionally diverse perspectives clash or overlap (Fritzsche, 2025; Roth et al., 2023). Moving beyond either-or and both-and solutions, the tetralemma positions 'neither-nor' and 'none of the above' as legitimate possibilities for reframing purportedly insoluble dilemmas (Pina e Cunha et al., 2021). In ESG practice, this logic can spur innovative thinking by prompting managers and stakeholders to step outside well-worn categories – potentially revealing novel ways to integrate scientific and cultural values, or to sidestep conflicts between short-term profitability and long-term planetary stewardship (Crace & Gehman, 2023; Schad & Bansal, 2018).

Theoretical Contributions

From a theoretical standpoint, our synthesis contributes to both the sustainability reporting literature and the ongoing debates around commensuration. While commensuration has long been recognised as a ‘social process’ shaping how organisations quantify and compare values (Espeland & Stevens, 1998; Espeland & Yung, 2019), we add the insight that *functional differentiation* fundamentally complicates commensuration: by treating social, economic, and political domains as dissimilar systems, Luhmann’s theory reveals why attempts to unify them under a single metric may inevitably suffer from biases. Further, by combining paradox theory (Schad et al., 2016; W. K. Smith & Lewis, 2011) with the tetralemma concept (Kleve et al., 2020), we show how an expanded logic of decision-making can enable organisations to face moral conflicts without artificially reducing them.

In doing so, our analysis builds on established critiques in the social and environmental accounting literature (e.g., Christensen & Skærbæk, 2007; Gray, 2010; Milne & Gray, 2013), but extends them by offering a systems-theoretical explanation for why these problems persist and a tetralemma-informed framework for navigating them.

Managerial and Policy Implications

Practitioners and policymakers who champion ESG-based accountability stand to gain significantly from a multifunctional and tetralemma-informed approach. Rather than discarding numeric data, managers can diversify their metrics, incorporating cultural or local-level concerns that escape standard E–S–G classification (Roth et al., 2023). Doing so may reduce the legitimacy gaps and social frictions that arise when companies fail to engage a broad spectrum of stakeholder values (Maniora, 2017; van Duuren et al., 2016). Policymakers, for their part, might facilitate this shift by revisiting disclosure mandates to encourage multiple dimensions of reporting, extending beyond a narrow triad towards a more pluralist set of recognised domains (Islam & Greenwood, 2022). This could involve, for instance, collaborative frameworks in which scientific agencies, religious communities, local governments, and educators co-create sustainability guidelines.

Meanwhile, financial intermediaries – ranging from ESG rating agencies to impact investors – can also play a role in normalising multifunctional metrics. They might incorporate ‘qualitative expansions’, such as culturally grounded evaluations, or permit organisations to submit context-specific data (e.g., art-based or religiously oriented initiatives) as complementary evidence of sustainable operations (Crace & Gehman, 2023; Schramade, 2016). While such adjustments may initially appear more labour-intensive, they could enhance the depth and credibility of ESG assessments, particularly for local stakeholders who hold values not easily captured by standardised reporting tools (Berg et al., 2022).

While social and environmental accounting research has already demonstrated the empirical reality of such oversimplification (Bebbington et al., 2020; Schaltegger et al., 2024), our framework highlights its systemic roots in functional differentiation and offers managers and policymakers a structured way of responding to incommensurable demands.

Limitations and Future Directions

The arguments advanced here remain primarily conceptual, underscoring the need for empirical research that tests the viability and outcomes of a multifunctional, tetralemma-based approach to ESG. For instance, scholars might investigate how specific companies – perhaps large multinationals or local social enterprises – apply (or reject) a broader set of indicators reflecting religion, health, or art. Comparative case studies could illuminate whether and how the tetralemma fosters

more robust stakeholder engagement, or how managers reconcile the tension between expanding their reporting scope and maintaining clarity in external disclosures (Järvinen et al., 2022). Quantitative projects might explore how multifunctional reporting influences market reactions or investor confidence, thereby linking moral complexity to tangible economic consequences (Tan, 2014; van Duuren et al., 2016).

Further, there is room to investigate how technological advances in data analytics – machine learning, big data – might either aid or complicate efforts to track multiple function systems. While digital platforms can streamline data collection, they can also inadvertently reinforce certain metrics at the expense of others (Esposito & Stark, 2019; Lindebaum et al., 2023). Integrating a tetralemma mind-set into algorithmic rating processes might require new governance structures for rating agencies and new interdisciplinary skill sets among sustainability professionals.

Final Reflections

Ultimately, the call to move ‘beyond ESG’ is not a rejection of quantitative accountability. Instead, it is a call to expand and recalibrate. By translating the moral paradoxes of sustainability into a tetralemmatic form, this paper offers not merely an alternative ESG framework but a reflexive stance against the standardisation of moral imagination. In so doing, the tetralemma invites organisations and regulators to sustain ethical plurality rather than suppress it under a single evaluative logic. In recognising that society is neither solely scientific nor purely political – nor exclusively moral or financial – organisational leaders and scholars can better respond to the intricate moral complexity at the heart of sustainability (Roth, 2021a, 2025). The multifunctional approach insists that we acknowledge the wide-ranging subsystems in which ethical questions unfold, and the tetralemma suggests how we might creatively navigate the resulting dilemmas. Adopting such an approach could shift sustainability discourses away from narrow debates over scoring accuracy and towards genuine engagement with the many ways different communities that evaluate, interpret, and live sustainability. This shift, in turn, may catalyse more inclusive forms of corporate responsibility – forms that retain ethical nuance, cultural diversity, and social adaptability in the face of what is perceived as today’s urgent global challenges.

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Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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