INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN ACCOUNTING, FINANCE AND MANAGEMENT SCIENCES

OPEN ACCESS JOURNAL

Vol 15, Issue 1, (2025) E-ISSN: 2225-8329

The Impact of Audit Firm Size on the Relationship between Integrated Reporting and Sustainability Performance: Conceptual Paper

Ali Al-Sanasleh[1], Nahariah Jaffar[1], Saidatunur Fauzi Saidin[2], Saddam Al-Nohood[3]

[1]Putra Business School, UPM, Malaysia, [2]School of Business and Economics, UPM, Malaysia, [3]Al al-Bayt University, Jordan

Corresponding Author Email: sad-kh1981@aabu.edu.jo

To Link this Article: http://dx.doi.org/10.6007/IJARAFMS/v15-i1/24623 DOI:10.6007/IJARAFMS/v15-i1/24623

Published Online: 04 February 2025

Abstract

This study seeks to develop theoretical frameworks regarding the impact of audit quality and integrated reporting on financial, environmental, social and governance (FESG) sustainability performance. This will assist future empirical research in investigating how the interplay of these two factors influences FESG sustainability performance. The objective is to determine whether these dimensions function synergistically or independently in influencing FESG sustainability performance. This study anticipates that the interaction between audit quality and integrated reporting quality will significantly enhance FESG sustainability performance. This study provides regulators, corporations, and stakeholders with theoretical insights to advocate for integrated reporting and stringent corporate governance, such as the Big Four audit firms. Thus, companies can generate long-term value and attain transparency and accountability, resulting in reduced capital costs, elevated valuations, and enhanced FESG sustainability performance.

Keywords: Integrated Reporting, Audit Firm Size, Sustainability Performance

Introduction

In 1987, the United Nations published the Brundtland Report, which addressed environmental issues and sustainable development. This report included sustainable development as a central theme. Since that time, *sustainability* has been a prevalent notion globally (Aras et al., 2018). Corporate sustainability is defined as "*a business strategy that creates long-term shareholder value by seizing opportunities and mitigating risks across economic, environmental, and social dimensions*" (Jones, 2011). It is a business strategy that generates enduring value for shareholders, employees, consumers, and society. Sustainability is linked to all human activities. It has also been described as living in an appropriate way and within the limits and needs of nature without destroying it (Rezaee et al., 2019). So, businesses are required to concentrate on the benefits that will occur over a longer period of time (Aras *et al.*, 2018). Corporate sustainability has become a priority, pillar and goal for

entities, especially sustainability with financial, environmental, social and governance benefits instead of just traditional sustainability. Corporate sustainability is the fruit of many vital pillars, including FESG. These pillars are informally designated as people, planet, purpose, and profits.

The financial sustainability pillar is referred to as the traditional pillar because it is well-known and receives significant regulatory, legislative, research and supervisory attention. Environmental, social and governance (ESG) sustainability has gained attention to the point where it has become as important as financial sustainability performance. The primary aim of financial sustainability is to furnish investors with insights regarding the company's historical, current, and prospective performance (Ajekwe, 2021). Robust financial sustainability diminishes the information asymmetry between business managers and external stakeholders (DALCI & ÖZYAPICI, 2020; Mardessi, 2021). As information asymmetry diminishes, reporting becomes more transparent, leading to reduced capital costs as the elimination of uncertainty lowers the risk premiums for enterprises. Consequently, businesses can more readily secure financing, enhance their firm value, and differentiate themselves in the competitive landscape.

According to Morelli (2011), the environmental dimension is about how human actions affect natural systems. He defined environmental sustainability in line with the common definition of sustainable development, which says that it is "*to meet the needs of the current generation without compromising the ability of future generations to meet the needs*." Sustainability, in environmental terms, denotes the ability to meet human resource and service needs presently and in the future without inflicting irreversible harm on the ecosystem that provides these necessities. Nowadays, there is a growing recognition of the value of environmental innovation in both academic and practical fields. Establishing the connection between environmental innovation and corporate sustainability performance is essential (Mansour, Al Zobi, Altawalbeh, et al., 2024; Mansour, Saleh, et al., 2024).

Social sustainability refers to enduring initiatives that influence community welfare (Elkington, 1997), including charitable endeavours (Chow & Chen, 2012), safeguarding human rights (Reichert, 2011), and mitigating social inequality (Alhaddi, 2015). Commercial organisations must engage in the welfare of their employees by addressing health and occupational concerns, providing training, enhancing skill development, ensuring care, offering compensation for workplace injuries and illnesses, and guaranteeing pension benefits upon retirement (Chow & Chen, 2012). These social activities seek to alleviate social processes that may adversely affect the company's operations and the community. They cultivate constructive engagements between the organisation and the community to tackle social issues and collaboratively resolve problems. The company seeks to foster a harmonious and mutually advantageous relationship with the community while tackling social issues.

Finally, governance sustainability, where corporate governance refers to helping stakeholders monitor controls, resolve conflicts of interest and enforce transparency. Good corporate governance ensures that regulations, rules and laws are followed, especially on economic, environmental and social issues. Governance works to implement corrective measures to maintain the long-term sustainability of companies (Buallay et al., 2017). Griffin et al. (2014) state that competent management leads to improvements in performance and efficient

resource utilisation, which in turn increases the trust of stakeholders in the company's ability to remain profitable and sustainable. Corporate governance is often regarded as one of the most important factors that can effectively contribute to the long-term viability of businesses (Al-Nohood et al., 2024a, 2024b; Mansour, Al Zobi, Saleh, et al., 2024), making it one of the most significant and consequential aspects of sustainability.

Given the importance of FESG aspects of sustainability in creating long-term value [1], sustainability has become a prevalent term among companies of all sizes. Walmart Stores, Inc. (WMT), McDonald's Corporation (MCD), and other substantial corporations have designated sustainability as a critical strategic objective. Companies try to improve FESG sustainability pillars by finding alternative resources that are better for the environment or using fewer limited resources, lowering their carbon footprint or wasteful practices, helping their employees, customers, and the community as a whole, keeping their accounting honest and open, following the rules, and making money, maximising wealth and creating value.

Based on the above, generating long-term value for organizations may depend fundamentally on their value and performance in the areas of sustainability combined, whether financial, environmental, social or governance. Consequently, regulatory and legislative entities have concentrated on improving the factors that are likely to affect the advancement of sustainability performance across its FESG dimensions. Factors include 1) corporate governance, encompassing audit quality, and 2) integrated reporting. Simply put, audit quality, particularly the Big Four audit firms and integrated reporting, might improve FESG sustainability performance.

Integrated reporting comprises data regarding the company's resource utilisation and its strategies for enhancing sustainability. Corporate reporting has undergone a major transformation to become more coherent and efficient and thus enhance transparency (Caglio et al., 2020). In other words, reporting has moved from traditional sustainability reporting to innovative and more comprehensive sustainability reporting that integrates financial and non-financial information into a single, clear and concise document that is able to explain how an organisation creates value over time to providers of financial capital. These innovative reports are known as integrated reporting. Integrated reporting connects different types of financial and non-financial data. This fixes problems with traditional sustainability reporting, like not taking into account all the resources that create value, including intellectual, social and relational, and financial ones. In short, organisational reporting approaches have evolved to enhance the integration of disclosures that advance stakeholders' interests, as well as market assessments that ultimately enhance corporate sustainability performance. Integrated reporting is the latest of these advancements (Sun, 2024).

In more detail, the year 2009 marked the beginning of the concept of integrated reporting when the United Nations issued a call to action to the International Federation of Accountants and other reporting bodies to build a worldwide framework for integrated reporting. In 2013,

[1] "*The fundamental concern is the definition of "value." The basic definition of this concept includes value to society, value to stakeholders and value to present and future generations*" (Anifowose, Abang, & Zakari, 2020). The concept of value is not limited to maximising the wealth of investors for the current period only but also includes the value for all stakeholders, society, and current and future generations.

a framework for integrated reporting was established, defining it as the process of representing and documenting a company's accounts in a report (Busco et al., 2013). The International Integrated Reporting Council (IIRC) framework, which came out in 2013, has two goals for integrated reporting: first, to improve information for outside investors; and second, to help companies make better decisions within the company (Barth et al., 2017).

The purpose of integrated reporting is to offer a report that is fair and balanced. The concept behind integrated reporting was to acknowledge the differences that exist across organisations and enable a high degree of comparison among businesses in order to fulfil the information requirements that were outlined. The implementation of integrated decision-making and the implementation of decisions that create value over time are made possible by the integrated reporting framework (IIRC, 2013). The Integrated Reporting Organisation mentioned guiding principles for the preparation of integrated reports, which guide the company to prepare the structural content of the company and how to present it. These principles are strategic focus and future orientation, connectivity of information, stakeholder relationships, materiality, conciseness, reliability and completeness, and consistency and comparability. When preparing the integrated report, there are seven elements that determine its content. By linking the content of the elements, they build the image of the business as well as a basic description of the company's business model. This provides the basis on which the company's performance, prospects and governance can be discussed in a manner that focuses on all its aspects (IIRC, 2013). Integrated reporting elements are organisational overview and external environment; governance; risks and opportunities; strategy and resource allocation; business model; performance; and future outlook.

Additionally, integrated reporting is gaining acceptance, as demonstrated by the rapid spread of companies that produce integrated reports or are considering producing them. At the global level, there has been an expansion in the regulatory interest in integrated reporting, as there is significant progress in integrated reports with the adoption of 1600 international companies for integrated reports (KPMG, 2013). All global powers support the adoption of integrated reporting, whether from global institutions or ministries or through the application of basic concepts of guiding principles. The presentation of integrated reports and the company's business model focused on diversified capital to create value. Further, Eccles and Saltzman (2011) noted that integrated reporting has many advantages: First, there are internal benefits that include enhanced decision-making regarding internal resource allocation, improved stakeholder involvement, and a reduction in reputational risk. The second benefit is in the external market. For example, it is possible to give investors ESG information, which is part of sustainability indicators, and to make sure that data suppliers give correct information about the company's non-financial aspects. Lastly, regulatory risk management, which encompasses activities like anticipating potential global regulations, responding to stock exchange requests, and actively participating in the development of frameworks and standards.

Notably, integrated reporting was assessed based on the six categories of capital: financial, intellectual, natural, social and relational, manufactured, and human capitals. These forms of capital pertain to the sustainability performance of the organisation (Anifowose et al., 2020). Including integrated reporting with correct and pertinent details about all six of its capitals is likely to improve sustainability in all of its categories. However, Milne and Gray (2013)

asserted that integrated reporting is exclusively focused on investor interests and provides minimal substantive insights into accountability or sustainability. De Villiers et al. (2017) indicated that the business-centred integrated reporting approach may restrict its function beyond the interests of non-financial stakeholders. Flower (2015) contended that integrated reporting is ineffective due to its appropriation by the accounting profession and advocates of the firm's capitalistic viewpoint. Dey (2020) asserted that there is no definitive evidence regarding the correlation between integrated reporting practices and liquidity. Certain studies have identified no correlation between integrated reporting and sustainability performance (Baboukardos & Rimmel, 2016; Vitolla, Salvi, et al., 2020).

In short, integrated reporting provides a comprehensive view of a company's financial and non-financial performance, thereby improving transparency and stakeholder engagement. However, it also requires significant resources to implement effectively and may adversely impact sustainability performance.

A further element that may enhance companies' sustainability performance is audit quality, particularly by the Big Four audit firms. The Big Four are striving to enhance audit quality due to the significant repercussions of misreporting (Francis & Wang, 2008). The Big Four possess superior reputations and financial resources, necessitating the provision of higher-quality audits to mitigate the risks of litigation and reputational damage among the other leading firms in the event of an error. The Big Four are regarded as more independent, thus offering reports on their outcomes that are marked by efficiency, effectiveness, and transparency (DeAngelo, 1981).

Besides, hiring a Big Four audit firm is generally expected to enhance a company's sustainability performance due to the perceived higher quality of the audit and the associated credibility. Hiring a Big Four audit firm often enhances the credibility and reliability of a company's financial statements. These audit firms are known for their rigorous auditing standards, extensive experience, and global reputation, which can reduce information asymmetries between a company and its investors. As a result, the market may reward companies audited by the Big Four with higher ratings, reflecting greater confidence in the company's financial health and governance practices and ultimately enhancing sustainability performance. In addition, companies that use these reputable auditors send a signal to the market that they are committed to high-quality financial reporting and transparency. This signal can lead to increased investor confidence, lower perceived risk, and ultimately, higher sustainability performance. In this regard, Carson et al. (2012) found that using Big Four auditors is associated with higher firm value and better sustainability performance.

Furthermore, Lawrence et al. (2011) argued that the superior audit quality provided by the Big Four firms contributes to their clients' higher market valuations. Big Four auditors may be more stringent in enforcing accounting standards and detecting irregularities, leading to more accurate and reliable financial reporting. This may reduce the likelihood of earnings manipulation or financial restatement, which enhances investor confidence and improves sustainability performance. What is more, Big Four auditors are able to provide value-added services beyond traditional auditing. These firms often provide advisory, risk management, and strategic guidance services, which can help companies improve their operational

efficiency and make strategic decisions. Thus, the holistic approach of Big Four audit firms can contribute to improving a company's overall sustainability performance.

Based on previous literature, Maroun (2019) examined the impact of the Big Four on the internal advantages and positive effects of the capital market, integrated reporting, and the financial performance of South African companies. The external auditor from the Big Four guarantees that he produces integrated reports of the highest quality. Vaz and Ruiz (2016) concluded that there is a strong relationship between external confirmations and the quality of integrated reporting. Also, integrated reporting reduces the asymmetry between information and stakeholders. Based on stakeholder theory, Akisik and Gal (2020) examined the relationship between integrated reporting, financial performance, and external assurance among North American companies. The findings showed that having an external auditor as a moderating variable makes the positive relationship between integrated reporting and sustainability performance even stronger.

In contrast, while the Big Four audit firms provide high-quality and reliable audits, their associated costs, conservative financial practices and potential limitations on operational flexibility can negatively impact sustainability performance. ESG performance may decline in companies audited by Big Four audit firms. Companies avoid reporting on some ESG initiatives or impacts due to the more stringent and conservative auditing processes of the Big Four audit firms. Although the Big Four audit firms' approach enhances financial rigor, it reduces sustainability efforts, specifically ESG performance. In this regard, Carson et al. (2012) argued that mitigating financial risks related to ESG reporting is a priority for the Big Four audit firms. Additionally, Martínez-Ferrero and García-Sánchez (2018) found that ESG reporting by Big Four audit firms' clients focuses on compliance rather than innovation. In other words, innovative ESG initiatives may clash with the regulations and standards that the Big Four audit firms require their clients to comply with. In short, the Big Four auditors' conservative, compliance-focused approach may lead to more cautious ESG reporting, which may lead to lower reported ESG performance.

Besides, Francis and Wang (2008) noted that while the Big Four audit firms bring credibility, they can also impose significant financial burdens on smaller companies, negatively impacting profitability. The Big Four audit firms charge high fees due to their reputation, expertise, and comprehensive audits. While these audits may be more comprehensive, the increased costs associated with these services may reduce a company's net income, resulting in lower financial sustainability performance. This cost impact may outweigh the benefits of improved audit quality in terms of its impact on financial sustainability performance. Moreover, while the Big Four audit firms enhance financial reporting quality, they may also lead to more conservative financial results. Despite the greater financial transparency and improved governance associated with hiring a Big Four audit firm, their stringent auditing standards may force more conservative accounting practices or the detection of financial discrepancies.

These more stringent requirements can result in lower reported earnings or the need for adjustments that smaller audit firms may not require. These stringent practices can impact financial sustainability performance. Furthermore, the involvement of a Big Four audit firm may signal to the market that the company operates in a complex or high-risk environment that requires extensive oversight. While this may enhance investor confidence in the

company's governance, it may also raise concerns about underlying risks, leading to more conservative business practices and, consequently, lower profitability, which in turn impacts financial sustainability performance.

What is more, Big Four auditors may limit a company's operational flexibility, as these auditors often require companies to adhere to more stringent financial controls and reporting practices. This can limit a company's ability to engage in more aggressive or innovative financial strategies, which may reduce its ability to generate higher returns on assets. Companies audited by the Big Four audit firms may adopt more conservative financial practices, leading to lower profitability in the short term, which is reflected in the impact on financial sustainability performance.

Integrated reporting and the Big Four audit firms both had mixed effects on sustainability performance. This makes stakeholders wonder whether these single factors are enough to achieve the desired level of sustainability. Therefore, the current study proposes to examine the interactive impact of both integrated reporting and audit firms on FESG sustainability performance.

The importance of the study stems from the importance of sustainable performance based on financial, environmental, social and governance performance, which extends beyond creating value for investors only to creating value "over time" for society, current and future generations, as well as all stakeholders (Al-Sanasleh et al., 2025). Therefore, the current study proposes the following:

1. The current study proposes building a single integrated measure of sustainability performance to include financial, environmental, social, and governance aspects, unlike previous measures that examine one angle, whether financial alone or environmental, social, and governance alone. The reason for the proposal is that the entity is viewed as a single unit rather than separate parts.
2. The current study proposes building a comprehensive measure for integrated reports to cover its six capitals, which are financial, intellectual, natural, social and relational, manufactured, and human capitals, instead of building an index in which one or more capitals dominate without the others as a single block. The reason for the proposal is that all six capitals are capable of creating value.
3. Previous studies have shown mixed results regarding the impact of audit quality on sustainability performance, so the current study proposes to examine the interactive impact of both audit quality, specifically the Big Four, and integrated reporting on sustainability performance.

The current study is expected to contribute to opening the minds of researchers interested in the factors that are likely to affect sustainability performance in its various aspects and thus help policy makers to refine or enhance these factors to the benefit of stakeholders in all their forms.

Literature Review and Hypotheses Development

Interactive Effect of Integrated Reporting and Audit Firm Size on Sustainability Performance

The rapid development of the global economy and its growing needs have led to a growing interest in business sustainability, which is recognised as a strategic necessity. Sustainability has become an integral part of corporate culture and the business environment.

Academicians, practitioners, and policymakers are increasingly focusing on concerns related to the sustainability of firms. Corporate sustainability has become increasingly important and has attracted great interest among businesses and stakeholders. A company's sustainability performance shows how well it manages a) economic growth, b) environmental protection, c) social efficiency, d) governance issues, and e) its financial performance. It also shows how these factors affect the company and society as a whole (Ho et al., 2021). Sustainability performance indices use these factors to rate companies and countries on the extent of their sustainability commitment (Amel-Zadeh & Serafeim, 2018; Melinda & Wardhani, 2020). During the first decade of the twenty-first century, several accounting scandals and the global financial crisis contributed to the growing criticism of the disclosed information and sustainability performance of global companies (García-Benau et al., 2013; Jennings, 2002). Because of this, regulatory and legislative bodies have taken strict actions regarding corporate governance and financial reporting. These include improving the quality of auditing and its relationships with clients and releasing the integrated reporting framework. These actions are likely to help create long-term value for entities, which means stable, sustainable performance.

Integrated reporting serves as a communication conduit with stakeholders, which can be perceived as binding and a significant advancement towards attaining a sustainable economy. It aims to harmonise financial considerations, social responsibilities, and environmental effects that must be incorporated into the planning and execution of activities, as well as the communication of company information. Rivera-Arrubla et al. (2017) examined the impact of integrated reporting on disclosure levels and the determinants of sustained disclosure. They determined that integrated reporting influences sustainability performance. They argued that integrated reporting influences the industrial environment of international firms, which are more adept at disseminating sustainability information.

Integrated reporting practices enhance company value (Barth et al., 2017; Loprevite et al., 2018; Moloi & Iredele, 2020; Pavlopoulos et al., 2019). Vitolla, Raimo, et al. (2020) discovered that integrated reporting significantly affects financial sustainability, particularly for large multinational financial corporations. The quality of integrated reporting disclosure is more significant when companies exhibit a greater value correlation to the book value of equity and earnings (Pavlopoulos *et al*., 2019). A positive correlation exists between integrated reporting, liquidity, and anticipated future cash flows, which bolsters the capital market (Barth *et al*., 2017). It is intriguing that the quality of profit for companies that are experiencing high agency costs is positively correlated with the voluntary adoption of integrated reporting (Obeng et al., 2020). A cohort of researchers identified a correlation between integrated reporting and corporate sustainability performance metrics (Akisik & Gal, 2020; Barth et al., 2017; Dey, 2020; Flores et al., 2019; Lemma et al., 2019; Loprevite et al., 2018; Muttakin et al., 2020; Obeng et al., 2020; Oshika & Saka, 2017; Vitolla, Raimo, et al., 2020).

Another factor enhancing sustainability performance is the Big Four audit firms. The Big Four audit firms provide superior audit quality compared to smaller firms, owing to their greater access to resources and facilities. Also, they exhibit greater efficacy than smaller enterprises owing to their technological proficiencies (Reisch, 2000). Al-Ajmi (2009) observed that larger audit firms typically provide superior quality in external auditing compared to smaller firms.

Their engagement with numerous clients enhances their expertise and capacity to deliver services across a broader spectrum. They can perform high-quality audits and remain impartial in their work, as they do not share the same level of concern about external opinions as small businesses do (DeAngelo, 1981). Francis and Yu (2009) contend that large audit firms possess enhanced capabilities, expertise, and skills in identifying significant misstatements and challenges in financial statement preparation.

The Big Four auditor firms are observed to provide higher financial sustainability performance (Ado et al., 2020; Afza & Nazir, 2014; Aledwan et al., 2015; Bouaziz & Triki, 2012; Ching et al., 2015; Phan et al., 2020). Dakhli (2022) contended that many stakeholders believe that companies audited by the Big Four are free of material misstatements, which encourages and enhances their confidence to invest more of their money in such companies. Because well-known audit firms operate according to high-quality auditing standards, they help ensure that the audited company's financial statements are reliable, transparent and useful. Strong audits can also help promote strong corporate governance and internal control in companies, thus contributing to improved financial sustainability performance.

Previous research has underscored the significance of engaging a Big Four audit firm and implementing integrated reporting to enhance sustainability performance. They promote accountability, transparency, and the establishment of enduring value. In recent decades, empirical studies have examined the interactions among various variables. Consequently, forthcoming empirical research should examine the interactive influence of the Big Four audit firms and integrated reporting on FESG sustainability performance. So, this study posits the subsequent hypotheses:

H1: Audit Firm Size moderates the relationship between integrated reporting quality and FESG sustainability performance.
H1a: Audit Firm Size moderates the relationship between integrated reporting quality and financial sustainability performance.
H1b: Audit Firm Size moderates the relationship between integrated reporting quality and ESG sustainability performance.

Conclusion

Integrated reporting and corporate governance (e.g., hiring a Big Four audit firm) are two of the most important things that can be done to improve sustainability performance in the areas of finance, the environment, society, and governance. So, this study reviewed previous literature that demonstrated the industrious role of high-quality external auditors and integrated reporting in improving sustainability performance. This study proposes that subsequent research should investigate their interactive influence on FESG sustainability performance. These factors are expected to contribute to enhanced stability and reliability in sustainable performance across all dimensions.

Overall, the importance of this study is highlighted from both a theoretical and contextual perspective. Theoretically, while previous studies have explored the role of integrated reporting in enhancing transparency and accountability, this paper introduces audit firm size as a pivotal moderating variable, bridging the gaps in agency theory, legitimacy theory, and resource-based theory. Agency theory assumes that external auditors mitigate information

asymmetries, but this study expands this by demonstrating that larger audit firms, with their superior resources and reputational capital, amplify the credibility of integrated reporting in maintaining sustainable performance. It also enriches legitimacy theory by revealing how audit firm size influences stakeholders' perceptions of corporate legitimacy by ensuring rigorous integrated reporting. Further, from a resource-based perspective, the findings emphasise how the tangible and intangible assets of larger audit firms (such as expertise, technology, and global networks) enhance the quality and impact of integrated reporting, thereby driving sustainability performance.

Contextually, this study is particularly important in an era where stakeholders are increasingly demanding greater transparency and accountability in enhancing sustainability performance. To be more specific, this study is timely as global regulators and standard setters increasingly mandate the adoption of integrated reporting as well as rigorous corporate governance to achieve sustainable corporate performance. The current research, by highlighting the moderating effect of one of the most important corporate governance tools, namely audit firm size, on the nexus between integrated reporting and FESG sustainability performance, provides guidance for researchers in these areas to empirically evaluate these interactions. The results of forthcoming empirical studies will be useful to all stakeholders, including directors, legislators and policymakers, shareholders, environment and society. These findings will serve as a catalyst for boards to make firm decisions on contracting with audit partners that can enhance stakeholder confidence and ensure compliance with evolving frameworks such as the International Integrated Reporting Council. They will also serve as a practical justification for regulators and policymakers to adopt and gradually enforce a rigorous corporate governance and integrated reporting framework, especially in emerging markets where they are still in their infancy. Further, these findings are likely to support advocates that companies are supposed to contribute to environmental and social value creation alongside traditional shareholder value creation, which means achieving sustainable FESG governance performance.

In short, this study provides a clearer lens to assess how integrating different perspectives derived from different theories (e.g., agency, signalling and stakeholder theory) contributes to advancing sustainability in an era of increasing calls for transparency, accountability and shared value creation.

Funding Information
The authors received no direct funding for this research.
Conflict of Interest Statement
The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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