

Systematic Literature Review on Integration of Malaysia's Environmental, Social, and Governance (ESG) Initiative towards Global Framework

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ABSTRACT

The growing emphasis on Environmental, Social, and Governance (ESG) disclosures has exposed a critical challenge: the lack of a standardized framework, particularly in emerging markets like Malaysia, leads to inconsistent reporting and impedes economic decision-making. This study conducts a systematic literature review (SLR) of 12 contemporary articles from accounting journals to analyze prevailing ESG frameworks and identify pathways toward standardization. Our analysis, focusing on articles published up to 2025, synthesizes key ESG metrics environmental (carbon, energy, waste), social (diversity, labor, community), and governance (transparency, leadership, risk) and evaluates prevalent research methodologies. The findings reveal significant variations in disclosure practices and a consensus in the literature on the need for harmonized indicators, validated weighting schemes, and industry-specific metrics. The study concludes by identifying critical research gaps in the Malaysian context and emphasizes the necessity for global, multidisciplinary collaboration to enhance comparability, ensure financial materiality, and ultimately bolster investor confidence in the capital markets.

Keywords: systematic literature review, environmental, social and governance, metrics, frameworks, disclosure quality, Malaysia

INTRODUCTION

Sustainability reporting has become central to discussion, especially following the rising concern about climate change in recent years. This has led to the recognition of environment, social and governance (ESG), which consists of frameworks and objectives that attempt to answer the widespread global concern about the environment. Following this, several parties have called upon policymakers to capitalize on the pressure from external stakeholders to enhance ESG commitments on standardizing ESG reporting quality among industry players globally (Wong et al., 2023; Adewuni et al., 2023). On the other hand, investors, firms, and customers consider ESG considerations when making decisions, especially in the stages of financing, operating cost estimation, and investment planning. Every one of these organizations and interested parties favors practical and eco-friendly products, such as manufactured items (Johari & Komathy, 2019). Therefore, a lack of ESG disclosure by firms may lead to poorly informed investments in high-risk sectors, increasing environmental harm or enabling workplace discrimination. Integrating ESG into investment decisions allows investors to evaluate a company's overall performance, not just its financial returns. (Mohammad and Wasiuzzaman, 2021). Due to its significant value to market participants, the United Nations recommends that companies disclose their ESG practices by 2030 (Krannich & Reiser, 2021).

Several research found that high quality of ESG disclosure may promote longevity of a company. This notion is consistent with the study by Keeley et al. (2022), ESG disclosure can expect high and consistent returns from ESG investment in the long run. Moreover, ESG technologies enable global financial services to manage risks, promote long-term market sustainability (Johari and Komathy, 2019; Olayinka, 2022), and help investors recognize the value of their investments (Friede et al., 2015). In addition, ESG disclosure also helps align

company's goals and vision with government's initiative to cut down carbon footprint and aims to facilitate carbon credit trading to promote low-carbon practices and achieve carbon neutrality (Tang et al., 2023; Adewumi et al., 2023). In response to increasing investor demand for non-financial information from companies, several sustainability accounting frameworks have evolved to improve standardized disclosure of ESG information (Mohammad and Wasiuzzaman, 2021). This echoes the study by Mura et al. (2018) in that a standardized ESG is required to facilitate investors to make accurate economic decision making.

Nevertheless, standardization of ESG disclosure in the annual report remains as one of the greatest issues with the comparability and standardization of ESG disclosures; detractors object to the lack of consistency and the possibility of "greenwashing" (Laasch & Conaway, 2015). This is mainly given the fact that ESG remains voluntary information, which indicates that the amount and type of information revealed in the annual reports are not subject to any regulations. The accuracy of the instruments used to measure ESG has been contested. Studies have shown that various ESG rating companies could generate distinct ratings for the same organization, raising questions about the consistency and comparability of these assessments (Tang, 2023; Mian et al., 2024; Wielechowski & Krasuski, 2024). Consequently, for sustainability reporting and performance to be consistent, comparable, and reliable, ESG practices must be standardized and regulated (Krueger et al., 2021; Wielechowski & Krasuski, 2024).

Issue with sustainability reporting (ESG) in Malaysia

Despite the growing research on ESG in Malaysia, the issue regarding the standardization of ESG disclosure in the annual report is still the main concern among practitioners, researchers and policymakers. This is evident in several studies, citing that there is a lack of consensus and clarity on what constitutes ESG performance and how to measure it, despite an attempt by the guide to provide the methods for measuring the metrics. Even if the measurement methods are agreed on, there may be a lack of reliable and comparable data on ESG issues, particularly the non-financial and qualitative aspects (Tang, 2023; Wong et al., 2023; Krueger et al., 2021). Meanwhile, a study conducted by Bakar et al. (2019) highlighted that lacking standardized quantitative information may be due to three possible reasons. First, the awareness and understanding of the sustainability concept among the employees are still low, especially among the operations employees. Thus, it is hard to get their corporation to support the sustainability agenda of the company. Second, they may have a problem in information management, where it is hard to gather all the valid sustainability information accurately. Most companies have operations in various places, and gathering information is not easy work. Lastly, this is the first year of the amended listing requirement and Sustainability Reporting Guidelines (SRG) implementations; therefore, companies are still in the learning and adapting process. In addition, Tang (2023) asserts that the lack of regulatory bodies to support, for example, Bursa Malaysia Listing Requirements, also presents a challenge to the process of standardizing ESG disclosure. Apparently, the only sustainability requirement available comes under the Listing Requirements of Bursa Securities Malaysia. Bursa Malaysia published the 3rd Edition of its Sustainability Reporting Guide at the end of 2022 to improve the disclosures of sustainability information while helping companies to manage the risks and opportunities associated with sustainability matters.

Purpose of this study

The outcome of the study enhances the existing literature by focusing on a more comprehensive analysis of ESG disclosure criteria, particularly in the Malaysian context. This is to enable the measurement of ESG disclosure in the annual report for the shareholders and other stakeholders by making a balanced economic judgement, aside from focusing solely on financial information. This study also indirectly provides in-depth insights which help global corporations, practitioners, regulatory bodies, and stakeholders with the roadmap and strategies in developing a more standardized measuring mechanism and frameworks to determine the quality level of ESG disclosure published in the annual report.

While numerous systematic literature reviews (SLRs) on ESG exist globally, few have focused specifically on the Malaysian context and its alignment with global frameworks. To address this gap, our study systematically reviews recent literature (2021-present) to map the current state of ESG metrics, identify unique challenges in Malaysia, and propose a pathway for better integration. The paper is structured as follows: a literature review

(Section 2), the research methodology (Section 3), an analysis of the findings (Section 4), a discussion of research gaps and future directions (Section 5), and the conclusion (Section 6).

LITERATURE REVIEW

The Evolution of ESG in Malaysia

Environmental accounting, first introduced in Malaysia in the late 1990s, is a key element supporting corporate governance. Initially a voluntary practice, it has since evolved into an important tool for communicating corporate responsibilities to stakeholders, particularly in developing countries like Malaysia (Nor et al., 2016). This is evidence that stakeholders in Malaysia are becoming more conscious of the need to provide environmental information. The sustainability reporting framework was gazetted in 2006 by the Ministry of Finance through its Bursa Malaysia Listing Requirements, Appendix 9C, Paragraph 29 (Aman et al., 2015). The adoption of sustainability reporting necessitates the involvement of authorities, the local National Audit department, and accounting professionals to enhance transparency (Joseph, 2010). The Financial Reporting Standard (FRS) 101 in Malaysia, according to Muniandy and Ali (2012), specifically states that an organization's management should provide more information to their annual report if doing so will assist stakeholders in making better decisions. The development of sustainability reporting also highlights ESG practices in Malaysia. In the past, a stream of studies was conducted to examine the relationships between ESG disclosure and firms' performance; however, the findings appear to be inconsistent as the performance of companies is tied to the interest of different stakeholders (Nollet et al., 2016; Han et al., 2016; Alareeni and Hamdam, 2020; Ali et al., 2022; Kamaludin et al., 2022; Lee and ISA, 2023). Meanwhile, several studies emphasize conducting a comprehensive analysis of ESG frameworks (Razak et al., 2021; Tang, 2023; Zahari et al., 2024). There are also a few scholars researching Shariah compliance firms and ESG disclosure (Qoyum et al., 2022; Lee and Isa, 2023; Zain et al., 2024).

In this study, researchers aim to analyze the pillars of ESG by using a systematic literature review (SLR) carried out by following a structured guideline which encompasses defining the keywords, searching data via search engines, extracting data, analyzing content and quality of data, and finally interpreting the data for future research (Lame, 2019).

Research Method

This study uses the SLR method, following the guidelines in the study by Egger et al. (2008), which comprises formulating a review question, defining inclusion and exclusion criteria, locating studies, i.e. search engines, selecting studies, assessing study quality, extracting data, analyzing and presenting results and interpreting results. The method is also aligned with the study by Moher et al. (2009), which is based on the identification of records (via database searching), screening (filtering records based on relevant criteria), eligibility (with full-text articles) and inclusion (number of studies included in quantitative synthesis). According to Lame (2019), SLR provides a systematic method to help researchers answer crucial issues. This means that SLR assists in finding and synthesizing case studies, providing an overview of all the theories investigated and the results drawn, and noting any limitations or future research in research. Another strength of SLR is that it can help researchers better understand and monitor research practices in society, i.e. social science. By evaluating how research methodologies are applied to certain subjects and utilizing evidence frameworks to evaluate the level of quality of included studies. Finally, SLR could enable researchers to reach beyond the research community and cross interdisciplinary challenges. Similarly, it helps researchers to understand research gaps and directions for future studies.

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework, which is advised for systematic literature reviews (SLRs), served as the basis for the article selection procedure. For conducting SLRs in a variety of study domains, PRISMA is a commonly accepted standard (Khaw et al., 2024). These suggestions are meant to help reviewers communicate the goal of the review, the methods employed, and the outcomes obtained openly and understandably. Figure 1 outlines the methodical steps in the process.

The first step in the first section of our study was selecting appropriate search terms in the Scopus database, which is renowned for its comprehensive and in-depth coverage of a wide range of research content (Fig.1). We used the search terms "ESG" OR "ESG framework" OR "environmental, social and governance framework". There were 1,437 publications found in the search. Following that, it was further filtered as only English-language publications were taken into consideration; the document type was limited to journal articles; the source type was set to journals; and the subject areas were restricted to Business, Management and Accounting. The results were reduced to 1,425 articles through this screening. After reviewing the titles and going through abstracts, 12 were ultimately chosen for the systematic review following a comprehensive full-text review (Khan, 2022).

Fig. 1: Identification of Studies via Database

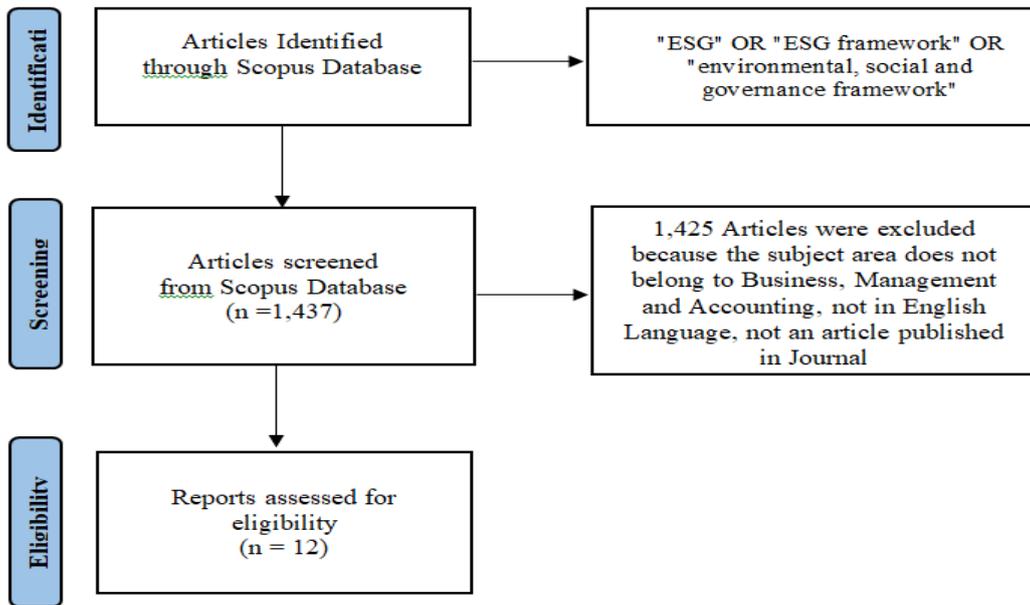


Table 1. Analysis of the criteria used for measuring ESG pillars

Researchers /publication year	Research objective and method	ESG criteria/metrics	Findings/ Contribution	Research gaps/limitations
Agosto et al. (2025)	This study examines the body of research on the differences between ESG ratings and looks at several types of aggregation techniques. The difficulties presented by inconsistent ESG ratings and their effects on investment choices are emphasized. Method: Studies use both more sophisticated algorithms (like XGBOOST) and more	Environmental: carbon emissions, preservation of the natural environment, biodiversity protection, waste and water management Social: Employee satisfaction, diversity, inequality, gender gap, protection of young and children, investment in human capital and	This study offers an in-depth assessment of the current ESG rating procedures, highlighting the need for better aggregation techniques.	Significant gaps remain in understanding how to effectively consolidate ESG information to create a dependable sustainability indicator.

	<p>conventional methods (like PCA or OLS).</p>	<p>communities, and human rights.</p> <p>Governance:</p> <p>the “good” governance of companies, which can contribute to a more sustainable and balanced firm’s growth, and thus to a more sustainable economic development.</p>		
<p>Jamaludin & Razali (2024)</p>	<p>To examine how Environmental, Social, and Governance (ESG) concepts are incorporated into corporate plans for sustainable development in the real estate industry in Southeast Asia.</p> <p>Method: Principal Component Analysis (PCA) is employed as a technique for distilling and interpreting the intricate data collected from the yearly reports of the top ten listed real estate firms in each Southeast Asian nation.</p>	<p>Environmental:</p> <ol style="list-style-type: none"> i. Carbon Footprint and Greenhouse Gas Emissions, e.g., methods to reduce emissions include carbon offsetting, increased energy efficiency, and renewable energy. ii. Energy Efficiency and Renewable Energy Use, e.g., evaluating energy conservation initiatives and switching to renewable energy sources, including hydropower, solar, and wind. iii. Waste Management and Pollution, e.g., evaluating the ensuing impacts on mitigation initiatives and environmental pollution. iv. Water Use and Conservation, e.g., evaluates corporate water management with a focus on sustainable resource use and conservation, 	<p>Research shows that among Southeast Asian real estate enterprises, useful ESG adherence is correlated with high market value, indicating that the market is beginning to acknowledge and recognize strong sustainability practices.</p>	<p>To conduct further research on disparities in market development, different regulatory enforcement levels, and the requirement for more standardized ESG reporting standards.</p>

		<p>including footprint reduction and wastewater treatment.</p> <p>v. Biodiversity and Land Use, e.g., monitoring and regulating environmental consequences, such as those on biodiversity and ecosystems, which are essential for sustainable development.</p> <p>vi. Environmental Policies and Compliance, e.g., compliance with environmental laws, evaluation of environmental risk management, commitment to stewardship, and infractions.</p> <p>vii. Sustainable Product Lifecycle, e.g., environmental impact at all stages of a product or service lifecycle, from the procurement of raw materials to eventual disposal, with a focus on recyclable materials, sustainable packaging.</p> <p>iii. Climate Change Mitigation and Adaptation.</p> <p>ix. Supply Chain Sustainability, e.g., emphasizing responsible procurement and sustainable sourcing.</p>		
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x. Investment in Environmental Technologies, e.g., Research and development of eco-friendly products or green technology, with an emphasis on inventions that reduce environmental harm.

Social

i. Employee Relations and Diversity e.g., e.g., fair compensation, benefits, working conditions, anti-discrimination laws, diversity

ii. Health and Safety e.g., e.g., Workplace health and safety regulations include steps to avoid mishaps, injuries, and occupational illnesses and training.

iii. Supply Chain Labor Standards, e.g., suppliers comply with fair labour practices and child labour laws, human rights.

iv. Community Engagement and Development, e.g., charitable activities, development projects, and support for local initiatives.

v. Customer Satisfaction and Data Protection, e.g., product

		<p>quality, customer service, fair pricing, and data privacy.</p> <ul style="list-style-type: none"> i. Human Rights and Fair Labor Practices, e.g., avoiding involvement in violations of human rights and protecting against negative effects on communities. ii. Stakeholder Engagement, e.g., adherence to health and safety standards. iii. Corporate Social Responsibility (CSR) Initiatives, e.g., volunteerism, charitable giving, environmental care, and ethical conduct. <p>Governance:</p> <ul style="list-style-type: none"> i. Board Composition and Diversity, e.g., Diversity in gender, ethnicity, experience, and background, and the independence and structure of the board. ii. Executive Compensation, e.g., perks, stock options, bonuses, and salary, as well as how these relate to the performance of the business and the interests of shareholders. iii. Audit Committee and Internal Controls, e.g., 		
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		<p>financial reporting, internal audits, and risk management supervision.</p> <p>iv. Shareholder Rights, e.g., voting rights, influence on management and board decisions, and engagement practices.</p> <p>v. Ethical Practices and Compliance, e.g., anti-corruption policies, and the presence and enforcement of a code of ethics.</p> <p>vi. Transparency and Disclosure, e.g., financial and operational results, company objectives, share ownership, and remuneration policies.</p> <p>vii. Risk Management, e.g., identifying, regulating, and reducing risks, including operational, financial, reputational, environmental, and social.</p> <p>iii. Conflict of Interest Policies, e.g., identifying, preventing and managing such conflicts, particularly when it pertains to CEOs and board members reporting external commitments that</p>		
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		could influence their decisions.		
		ix. Sustainability Oversight, e.g., Evaluating governance structures' oversight on sustainability and ESG issues.		
Sulaiman et al., (2024)	<p>To assess the present ESG practices of 55 construction businesses listed on Bursa Malaysia as revealed in their annual reports and sustainability statements.</p> <p>Method: evaluate the sustainability statements of listed firms' annual reports, which were available on their corporate websites or the Bursa Malaysia website, using a qualitative content analysis technique.</p>	<p>Environmental:</p> <p>Pollution and resources, climate change, biodiversity,</p> <p>Water use, supply chain</p> <p>Social: Safety and health, labor standards, Human rights, Customer responsibility,</p> <p>Governance:</p> <p>Risk management, corporate governance, anti-corruption, tax transparency</p>	The research's conclusions clearly show that the social pillar performs best among the ESG pillars. The social pillar places a noticeable concentration on the matter of health and safety in the context of construction.	None noted.
Mian et al., (2024)	<p>Exploring ESG criteria and metrics.</p> <p>Method: conducted a three-phased strategy, which included a thorough examination of the information that was readily accessible, a forensic examination of the ESG risk analysis tool, and a research survey to obtain the priorities and viewpoints of experts in the decision-making process.</p>	<p>Environmental:</p> <p>Resource use, emission, Innovation</p> <p>Social:</p> <p>Workforce, human rights, community, product responsibility.</p> <p>Governance:</p> <p>Management, shareholders, and product responsibility</p>	An examination of the available material, a forensic examination of the ESG risk analysis tool, and a research survey to obtain priorities and expert opinions for the decision-making process.	The defined weight of ESG pillars and criteria has not been validated among the survey respondents. Cross-validation will improve the created ESG criteria generalizability and applicability across a range of industries.
Oliver (2024)	To examine environmental, social, and governance (ESG) metrics and possible effects within the	<p>Environmental:</p> <p>All business activities which lead to environmental impact.</p>	Examine the primary ESG (Environmental, Social, and Governance) metrics in the context of the	Future research: analyze the significance of non-financial data, identifying a group

	<p>context of non-financial data.</p>	<p>Criteria is valued as efficiency, transparency, quality, and commitment of the Company.</p> <p>Social:</p> <p>Human rights, impact on community, society, and stakeholders, social responsibility of the product, health and safety, respect for diversity and relationship with consumers.</p> <p>Governance:</p> <p>Board structure, executive compensation, shareholders' rights.</p>	<p>international financial and economic systems' sustainability plan among the European Union (EU) members.</p>	<p>of material and important ESG aspects that could influence various management metrics (such as cash flows and EBIT) of a non-financial organization.</p>
<p>Hashim et al. (2024)</p>	<p>To provide solutions for improving the assessment standards for ESG reporting in the utilities industry, covering electricity, water, telecommunication, and oil and gas service providers in Malaysia.</p>	<p>Environment:</p> <p>i. Resource Management: Energy and water management.</p> <p>ii. Emission management and waste management.</p> <p>iii. Climate Change Mitigation: Green gas management and climate change.</p> <p>iv. Environmental Footprint Assessment: Assessing and controlling the effects on the environment during operations.</p> <p>v. Resilience and Adaptation:</p>	<p>This study anticipates lowering the time, expenses, and administrative constraints associated with compliance for Malaysian utility firms by proposing a simplified approach to assessment criteria.</p>	<p>i. Proposal of creating a standardized list of reporting ESG indicators and harmonizing sustainable development reporting standards to improve the quality of the ESG evaluation.</p> <p>ii. To conduct a more thorough analysis that combines quantitative and qualitative methods.</p>

		<p>Network resilience and climate change effect.</p> <p>Social:</p> <p>i. Diversity and Inclusion: Employee diversity and equal opportunity in the workforce.</p> <p>ii. Health and safety for employees in the workforce.</p> <p>iii. Labor practices and standards: Labor rights, fair wages, training for employees.</p> <p>iv. Community engagement: involvement of stakeholders, charitable endeavours, and collaborations with local groups.</p> <p>v. Workforce Management and Resilience: safeguard the resilience of the workforce to major incidents and their health and safety.</p> <p>vi. Social Responsibility: reduction of poverty, eradication of hunger, gender equality, educational access, and inclusive economic growth.</p> <p>Governance:</p> <p>i. Sustainable Governance and</p>		
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		<p>Ethics: accountability to stakeholders, openness in decision-making, and commitment to moral standards.</p> <p>ii. Supply Chain Management: supply chain accountability and transparency, supplier diversity, and ethical sourcing.</p> <p>iii. Supply Chain and Governance: commitment to ethical business operations is demonstrated by the transparent supplier evaluation, ethical sourcing, and openness in governance procedures.</p> <p>iv. Data Privacy and Security: protecting private data and making sure that data security regulations are followed.</p> <p>v. Anti-corruption Measures: enforcement of anti-corruption legislation, whistleblower procedures, and anti-corruption policy.</p> <p>vi. Effective Governance Processes: board supervision, risk evaluation, and internal controls ensure accuracy in company reporting and adherence to evaluation criteria.</p>		
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		<p>vii. Investor Practices and Disclosure: Stakeholder involvement, ESG disclosure, and the incorporation of sustainability factors into investor practices.</p> <p>iii. Risk Management and Resilience: Systemic risks from technological disruptions and other external factors are addressed through risk assessment, business continuity planning, and resilience-building approaches.</p>		
<p>De Souza Barbosa et al. (2023)</p>	<p>To compile and evaluate the research on how incorporating ESG standards affects business sustainability performance.</p>	<p>Environmental:</p> <p>Carbon footprint, natural resources usage, recycling policies, and waste management.</p> <p>Social:</p> <p>The company's relationship with employees, suppliers, clients and communities. Diversity, non-discrimination, gender pay equality, equal opportunities, employee education, and community protection</p> <p>Governance:</p> <p>Leadership, internal control, executive compensation, audit, shareholders' rights, anti-corruption policies, transparency</p>	<p>Facilitating businesses to comprehend how incorporating ESG criteria can enhance corporate sustainability performance, offering improved business planning and investment optimisation.</p>	<p>Future studies could examine the establishment of standardized metrics, or common metrics applicable to various industries and regions; the correlation between ESG and financial performance, the mechanisms underlying this correlation, such as the effects of ESG criteria on employee satisfaction or customer loyalty; the effects of ESG criteria on non-financial stakeholders, including communities, customers, and employees; the role of technology in ESG, such as blockchain and artificial</p>

		and accountability policies.		intelligence in ESG reporting and decision-making; and emerging ESG issues, such as how supply chains are affected by climate change or the ethical implications of artificial intelligence.
Tang (2023)	To review existing ESG laws and standards from different countries and providing recommendations for enhancing ESG practices in Malaysia.	<p>Environmental: the concept of double materiality can be embedded to examine not only the potential and actual impacts caused by a company's operations, but also the implications of ESG-related risks on finance.</p> <p>Social: Human rights to deter discrimination, e.g., forced labor, unfair treatment of migrants workers</p> <p>Governance: anti-corruption, independence and diversity of company boards and management, transparency, disclosure and the exercising of due diligence.</p>	<p>addressing the overarching ESG-related risks and opportunities, with double</p> <p>Materiality could help raise the standard of regional ESG disclosure requirements. It could help</p> <p>investors and financial institutions to better identify and manage ESG-related risks and opportunities, as well as integrate ESG factors into decision-making.</p>	<p>There is a requirement to describe the metrics and targets for financial and non-financial</p> <p>sectors to enable more standardized performance reporting, hence permitting the comparison</p> <p>of performances.</p>
Adewumi et al., (2023)	To investigate the level of sustainability assessment frameworks that help UK construction companies demonstrate their commitment to ESG targets.	<p>Environmental: Energy used, natural resources used, effect of eco-system and habits.</p> <p>Social:</p>	<p>Construction assessment framework could serve as a</p> <p>vehicle for organisations in the construction industry to demonstrate</p>	<p>Proposing environmental metrics like education and skills, emergency response planning, legacy planning, strategies, policies, bribery and corruption</p>

		<p>Extent of Stakeholders engagements, relationship with local communities, diversity inclusion, health and safety.</p> <p>Governance:</p> <p>Policies, practices and procedures, compliance with law and meeting obligations.</p>	<p>commitment to ESG targets on environmental assessment methods (BREEAM).</p>	<p>elimination, and enforcing moral behavior (ethical and professional conduct).</p> <p>Proposing governance metrics such as institutional frameworks, policies, reporting and communications and the sustainability department.</p>
Keeley et al. (2022)	To study the terms of “ESG Investments”, especially “Social” in ESG.	<p>Social Equity:</p> <p>Diversity, income inequality, worker safety, systemic racism, and companies’ broader role in society</p>	<p>This study analyses social justice and sustainability quantitatively, which gives investors clear and transparent information and clarifies confusion among businesses attempting to improve their ESG performance.</p>	<p>Only focus on social elements as prioritized by the public, which is done quantitative manner. To improve rating methodologies and transparency of rating decisions, future research on conducting qualitative research is encouraged.</p>
Pulino et al. (2022)	The purpose of this study is to examine how ESG disclosure affects the performance of the company.	<p>Environmental:</p> <p>The quantity of emissions that a business releases into the environment, resulting in the formation of air pollution</p> <p>Social:</p> <p>HR initiatives to improve their human resource management</p> <p>Governance:</p> <p>organization’s commitment to implementing social responsibility principles, that is, to</p>	<p>The results, which show that ESG disclosure improves corporate performance, ought to encourage managers to spend resources on CSR initiatives.</p>	<p>The performance has been tested using ROA and EBIT as the main indicators connected to the capital invested in the operating activities and the operating result; nevertheless, other measures of performance might be investigated to gain a deeper understanding of the business benefits of ESG disclosure.</p>

		effectively managing social and ethical issues		
Billio et al. 2021	Examine the ESG grading standards employed by renowned organizations and note any discrepancies in the definition of ESG.	<p>Environmental:</p> <p>Energy efficiency, greenhouse gas emissions, waste, water and resource management.</p> <p>Social:</p> <p>Gender policies, protection of human rights, labor standards, workplace and product safety, public health, income distribution, and employee satisfaction.</p> <p>Governance:</p> <p>Independence of board administration, shareholders' rights, managers' remuneration, control procedures, anti-competitive practices, and compliance of laws.</p>	There is an inconsistency in common ESG metrics, which makes it difficult for rating agencies to evaluate the performance of a company on the definition of ESG (characteristics, attributes, and standards).	A more accurate description of ESG investment Benchmarks is required for the accuracy of company performance evaluation by rating agencies.

Analysis of the literature

The main objective of the literature review, which is tabulated in Table 1, is to evaluate ESG practices, metrics (i.e., criteria) and frameworks. Nevertheless, it is evident that methods used in the literature review vary in three main categories: quantitative (i.e. Jamaludin and Razali, 2022; Agosto et al., 2025), qualitative (i.e., Sulaiman et al., 2024; Hashim et al., 2024) and mixed method (i.e., Mian et al., 2024).

In terms of research on ESG metrics (criteria) under the environment pillar, the main themes are 1) Carbon & GHG Emissions: Emissions reduction, carbon offsetting, pollution control (Pulino et al., 2022; Jamaludin & Razali, 2022; Sulaiman et al., 2024; Agosto et al., 2025), 2) Energy & Resource Efficiency: Energy use, renewable sources, water conservation, natural resources (Jamaludin & Razali, 2022; Hashim et al., 2024; Adewumi et al., 2023), 3) Waste & Pollution Management: Lifecycle assessment, pollution reduction, recycling (Billio et al., 2021; Jamaludin & Razali, 2024), 4) Biodiversity & Land Use: Environmental impact on ecosystems, biodiversity preservation (Jamaludin & Razali, 2024), 5) Climate Change: Mitigation strategies, resilience and adaptation (Hashim et al., 2024; Jamaludin & Razali, 2024) and 6) Environmental Governance: Policies, compliance, technology investment (Tang, 2023; Hashim et al., 2024). In terms of criticality for each of the pillars, the dominance of carbon emissions and energy efficiency in the environment reflects global climate pressures. However, the relative lack of focus on biodiversity in Malaysian studies (except Jamaludin & Razali, 2024) may indicate a misalignment with emerging global frameworks like the TNFD (Taskforce on Nature-related Financial Disclosures), representing a critical gap.

Meanwhile, the social pillar encompasses 1) Employee Wellbeing: Health and safety, Fair labor practices, Human resource initiatives (Pulino et al., 2022; Sulaiman et al., 2024; Mian et al., 2024), 2) Diversity & Inclusion: Gender equality, anti-discrimination, inclusive workforce (Keeley et al., 2022; Hashim et al., 2024), 3) Community Engagement: CSR, education, stakeholder involvement, local development (Adewumi et al., 2023; Jamaludin & Razali, 2024; Hashim et al., 2024), 4) Human Rights: Protection of vulnerable groups, fair treatment (Tang, 2023; Jamaludin & Razali, 2024), 5) Product Responsibility: Customer satisfaction, data privacy, ethical conduct (Mian et al., 2024; Jamaludin & Razali, 2024), 6) Social Equity & Justice: Systemic racism, income inequality, broader social roles (Keeley et al., 2022). The breakdown of the social pillars exhibits employee, health and safety, diversity, equity and inclusion, labor relations and human rights and investment in human capital as the main concentrations. It can be translated in a way that any company's workforce is a direct, manageable, and significant asset. There are immediate risks associated with poor performance in these areas, including damaged reputations, lawsuits, strikes, and talent loss. Additionally, collecting and transmitting the data is comparatively simpler for businesses.

Finally, governance focuses on 1) Board & Leadership: Diversity, independence, and ethical leadership (Jamaludin & Razali, 2024; Hashim et al., 2024), 2) Transparency & Compliance: Disclosure, anti-corruption, legal compliance (Tang, 2023; Sulaiman et al., 2024; Oliver, 2024), 3) Risk & Internal Control: Audit, risk management, resilience planning (Billio et al., 2021; Hashim et al., 2024), 4) Investor & Shareholder Rights: Engagement, voting, and compensation alignment (Oliver, 2024; Jamaludin & Razali, 2024), and 5) Sustainability Oversight: ESG integration into governance processes (Hashim et al., 2024; Jamaludin & Razali, 2024). In terms of their criticality, the main concerns of the themes are on the board structure, composition, and oversight; executive compensation and alignment; followed by transparency, disclosure, and shareholders' rights; and ethics, compliance, and risk management. In a nutshell, the governance pillar is about forming a system of checks and balances that promotes ethical conduct, strategic monitoring, and long-term value creation. The primary emphasis is interrelated, encompassing an effective and diverse board that sets the strategies, aligned incentives to drive management behavior, transparency, which is being accountable to owners, and strong security measures to protect entities from internal and external threats.

Research gaps and limitations for future studies

This study provides several gaps and limitations of information in relation to ESG metrics and frameworks practiced globally, notably from a Malaysian perspective.

Standardization and Benchmarking Gaps

The analysis shows one of the main gaps was a lack of standardized on ESG reporting across corporations, be it in the international or Malaysian arena (Hashim et al., 2024). This can be explained by the non-mandatory policies and framework prescribing the voluntary nature of the practices. Thus, researchers are in consensus that creating a standardized list of ESG indicators and harmonizing sustainable development reporting standards will improve the quality of ESG assessment. In a similar vein, Tang et al. (2023) connoted there is a requirement to describe the metrics and targets for financial and non-financial sectors to enable more standardized performance reporting, hence permitting the comparison of performances between corporations. Additionally, a more accurate description of ESG investment Benchmarks is required for the accuracy of company performance evaluation by rating agencies (Billio et al., 2021).

Methodological Gap

Meanwhile, Wong et al. (2023) stressed that researchers could perform a content analysis of yearly sustainability reports to create a more comprehensive index or criteria for ESG evaluation. Another crucial discovery was found in the study of Mian et al. (2024), which highlights that the weight of ESG pillars and criteria has not been validated among the survey respondents. Accordingly, conducting cross-validation procedures will further improve the existing ESG criteria's generalizability and applicability across a range of industries. In addition, a study conducted by Adewumi et al. (2023) proposes environmental metrics like education and skills, emergency response planning, legacy planning, strategies, policies, elimination of bribery and corruption, and enforcing

moral behavior (i.e. ethical and professional conduct). This is in response to bridging the gaps in urban regeneration sustainability assessment frameworks (SAFs).

Emerging Trends and Understudied Areas

The analysis also provides the understudied areas and emerging trends of ESG studies, which encompasses qualitative social metrics of ESG (Keeley et al, 2022) and artificial intelligence (AI) blockchain in ESG (De Souza Barbosa et al., 2023). These areas are imperative because they improve data-driven decision-making, accountability, efficiency, and transparency in sustainability initiatives. Similarly, a study conducted by Tang (2023) posits that ESG's essence, among others, should also include double materiality, which concentrates on the importance of assessing both financial and environmental effects. On the other hand, the studies of Adewumi (2023) and Hashim et al. (2024) highlight that there is a need to have industry-specific metrics, such as construction, manufacturing, financial services institutions, healthcare, technology, oil and gas, agriculture, etc. This is imperative because it can provide robust policies of ESG disclosure by specific industry, such as material risks and opportunities, fulfilling investors and stakeholders' expectations, operational and strategic alignment, risks mitigation and regulatory and reporting requirements.

CONCLUSIONS

The systematic literature review underscores the growing significance of Environmental, Social, and Governance (ESG) disclosure frameworks, particularly from the Malaysian perspective. The analysis reveals that ESG research employs diverse methodologies, namely quantitative, qualitative, and mixed methods, to evaluate ESG practices, metrics, and frameworks. Key themes across the environmental pillar include carbon emissions, energy efficiency, waste management, and climate change mitigation. The social pillar emphasizes employee well-being, diversity, community engagement, and human rights, while governance focuses on board leadership, transparency, risk management, and sustainability oversight.

Despite advancements, critical research gaps persist. A major challenge is the lack of standardized ESG reporting, exacerbated by voluntary disclosure practices in Malaysia and globally (Hashim et al., 2024). Recent statistics indicate that only 42% of Malaysian public-listed companies (PLCs) fully comply with Bursa Malaysia's Sustainability Reporting Requirements, highlighting inconsistencies in disclosure quality (SCM, 2023). Furthermore, the absence of universally accepted ESG benchmarks complicates performance comparisons across industries (Billio et al., 2021).

Emerging trends suggest a shift toward integrating AI and blockchain in ESG reporting to enhance transparency and data accuracy (De Souza Barbosa et al., 2023). Additionally, double materiality assessing both financial and environmental impacts is gaining traction as a crucial ESG evaluation criterion (Tang, 2023). Industry-specific ESG metrics are also essential, as sectors like construction, oil and gas, and financial services require tailored frameworks to address unique risks and stakeholder expectations (Adewumi et al., 2023; Hashim et al., 2024).

To bridge these gaps, future research should develop standardized ESG indicators to enhance comparability and reliability in corporate disclosures, validate ESG weighting mechanisms through cross-industry studies to improve generalizability, explore AI-driven ESG analytics to automate sustainability reporting and improve decision-making, expand qualitative social metrics to capture intangible factors like corporate ethics and community impact, and promote regulatory reforms to transition from voluntary to mandatory ESG disclosures, ensuring accountability.

As Malaysia advances its sustainable finance agenda, evidenced by the Securities Commission Malaysia's (SCM) 2025 Sustainable Finance Roadmap, academic and industry collaboration will be pivotal in refining ESG frameworks. By addressing these gaps, businesses can better align with global sustainability standards, fostering long-term resilience and stakeholder trust.

This study presents a systematic literature review of the contemporary ESG framework, mainly from a Malaysian perspective, which covers the period from 2021 to 2025. The ESG framework has become increasingly important, notably in determining how corporations or organizations assess the risks and opportunities related

to managing ESG factors. The analysis of this study also reveals growing emphasis on industry-specific adaptations, alignment with financial materiality, and the need for standardized ESG frameworks. Persistent challenges such as inconsistent frameworks, regional enforcement disparities, and methodological limitations emphasize the importance of multidisciplinary and cross-regional collaboration. Overall, ESG research is shifting from primarily descriptive analyses toward the development of actionable frameworks; however, achieving harmonization remains essential to ensure comparability and bolster investor confidence, especially in the Malaysian capital market.

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