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## Research Article

### ESG Reporting Practices and Their Role in Driving Circular Economy Innovation and Triple Bottom Line Performance among Philippine Manufacturing Enterprises: A Narrative Literature Review

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#### **ABSTRACT**

The study examines at how Environmental, Social, and Governance (ESG) reporting is helping mold a more responsible and sustainable future for manufacturing businesses in the Philippines. Today, businesses are no longer judged by profit alone. They are also expected to show how they protect the environment, treat people fairly, and operate with integrity. Utilizing a narrative literature review of studies published from 2015-2025, this research explores how this concept supports circular economy innovation and improves Triple Bottom Line performance, which focuses on people, planet, and profit. The review shows that government regulations, especially the SEC Memorandum Circular No. 4 (2019), greatly increased sustainability reporting among companies. While many firms now comply with reporting requirements, the actual depth of sustainability actions still differs across organizations. Evidence shows that strong ESG practices encourage circular strategies such as reducing waste, reusing materials, and designing products for longer use. These efforts are further supported by national policies like the Extended Producer Responsibility Act of 2022. But, problems remain, including limited data, uneven reporting quality, and resource constraints among smaller firms. In the nutshell, the study emphasizes that meaningful ESG reporting, combined with circular economy practices and responsible leadership can help Philippine manufacturers achieve long-term growth, resilience, and global competitiveness.

**Keywords:** *ESG Reporting, Triple Bottom Line, Circular Economy Performance, Narrative Literature Review*

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## Introduction

In recent years business around the world has been realizing that success, for businesses, is no more measured by profit alone. Now, businesses are held responsible with regard to the environment, society, and acting ethically. In light of all that change, the importance of Environmental, Social, and Governance (ESG) reporting has been rising, paving way for companies everywhere to take a structured approach to reporting how they are managing risks related to sustainability, opportunity for growth and how they are creating long-term value. ESG reporting has evolved from a business tool to a strategic business tool that enhances enterprises to enhance their transparency, to raise investor trust, and to position themselves in a sustainability-based economy on the world stage.

In the realm of manufacturing, ESG practices are particularly crucial due to the industry's massive resource consumption, waste production, and environmental impact. Studies indicate that robust ESG performance is closely associated with enhanced sustainability performance and innovation capacity of manufacturing companies. Companies that have active ESG initiatives have a tendency to improve innovation performance and, thus, their overall sustainability performance, such as resource efficiency, waste reduction, and cleaner production. This implies that it is not only mandatory since ESG reporting makes it mandatory to report on ESG but also a driver for the transformation of an organization and the advancement of a technology.

Likewise, research on manufacturing practices in general reinforces the finding that investments in technology innovation, intelligent manufacturing substantially enhance ESG performance through the facilitation of green innovation, environmental management and governance transparency. Hence, increasing ESG can help the industry to become a sustainable competitive player in the regulated and environmentally friendly market through operational and sustainable production process improvement and emissions reduction.

In parallel with the rise of ESG, the market is increasingly relying on the circular economy model (CEM) that involves reducing waste,

reusing resources, and redesigning production systems to be ecologically responsible. These studies show that ESG disclosure reinforces circular economy innovation as firms are empowered to track their resource utilization, environmental impact and social responsibility over the product life-cycle. In many cases in production environments, ESG-related innovation manifests itself directly in products optimized for recycling, reuse, or safer disposal, ultimately supporting circular production and long-term resource sustainability directly through the circular production systems.

Key to ESG as well as circular economy performance is another important framework which is the Triple Bottom Line (TBL) which measures organization performance according to three fundamental aspects, which are environmental stewardship, social responsibility and economic viability: TBL reporting enhances corporate accountability and stakeholder engagement to ensure sustainability initiatives add value over the long-term rather than just for short-term interest. According to the literature, companies adopting TBL are most likely to demonstrate increased transparency, stronger relationships with stakeholders, and a more efficient and effective management sustainability practices. In addition, sustainability reporting is now generally considered a method for organizations to gain trust as they need to be able to visually demonstrate how their operations affect communities, the environment and their survival and profitability in the later stages of their operations (Lim et al., 2024). This abrupt transition is embodied by the Triple Bottom Line paradigm, which extends conventional metrics of success beyond profit to evaluate social and environmental performance (Omeir et al., 2023).

For the Asian and Southeast Asian (ASEAN) region, and economies like those of the Philippines, ESG actions have a substantive and positive impact on green innovation and financial performance. Environmental and governance reports are tied to more enhanced innovation, while social reporting tends to provide benefits both in the short and long run for firms. This points to the function of ESG reporting as a connection of sustainability accountability and business performance. Although this sector is a

source of economic growth, it is also under increasing pressure due to energy consumption, carbon emissions, and industrial waste (Antoni, 2025). Industries contribute to the growth of the economy, but they also introduce problems such as high energy consumption, carbon emissions and waste. In the Philippines, those conditions have led to swift regulatory response. The major turning point came with the Securities and Exchange Commission's Memorandum Circular No. 4, Series of 2019, which imposed the requirement for publicly listed companies to disclose sustainability reports on a "comply or explain" basis. The corresponding increase in the disclosure rates—from approximately 22% before the policy up to above 95% near the end of 2024—demonstrated the tremendous impact of regulation on corporate behavior (Lim et al., 2024; Inquirer.net, 2024).

In the Philippines, it is the manufacturing enterprises that are continually impacted for sustainable practices and transparent reporting from global markets, investors, regulators, and consumers. As climate risk, supply chain sustainability mandates and acceptable production practices become ever more prominent, it is time for ESG report is not just a voluntary corporate initiative, It is a strategic requirement for businesses. For Philippine companies, linking ESG reporting to circular economy logic and Triple Bottom Line-based assessment of performance might offer opportunities toward sustainable industrial growth, competitive advantage on the international stage, and inclusive economic growth.

Meanwhile, sustainability is a key element of development initiatives at the national level since then: the Philippine Green Jobs Act (PJA) and the Sustainable Finance Roadmap designed to promote economic development and environmental conservation (Bueta et al., 2023; BSP, 2022). Key to this policy direction is the Circular Economy (CE), a reclamation-oriented framework that takes the "take-make-waste" route and promotes the effectiveness of resources and the recycling of waste to have the average cycle time of the products not of the waste of old products increasing (Salvacion &

Campos, 2024). This transition is compounded by the Extended Producer Responsibility (EPR) Act of 2022, where large corporations were obliged to reclaim a large proportion of their plastic packaging, thus formalising the integration of circularity as part of business responsibility (Lim et al., 2024). Emerging concerns of "ESG-washing" indicate that some firms may focus more on reporting than on process innovation or measurable impact (Kopnina et al., 2025). The early evidence in the Philippine arena implies that governance disclosures can tie with financial performance, but the wider implementation of environmental and social initiatives in relation to tangible TBL performance continues to evolve (Cruz, 2022; Espino & Mutuc, 2024).

These trends indicate that further study on the influence of ESG reporting practices on circular economy innovation and Triple Bottom Line performance, which can be particularly well aligned to the manufacturing sector in the Philippines, is urgently warranted. This is how a narrative literature review could provide a comprehensive picture of what practices, trends, and research gaps exist and emerging trends can also be addressed by the narrative literature to policymakers, industry leaders and those for stakeholders (policymakers, industry leaders and sustainability developers wanting to strengthen responsible manufacturing in the country.

## Materials and Methods

A narrative literature review is a key mechanism for this study that allows it to measure the complexity and situational issues and worries (Greenhalgh, 2018; Jamaluddin et al., 2023). For research purpose, the papers were checked for the coherence and the validity from other studies and literature which were searched for both recent studies (Scopus, ScienceDirect, JSTOR, and Google Scholar) and the publications from 10 years ago to 2025, in order to make sure consistency and credibility in the paper. Below is a description of the theoretical perspective that the study was based on.

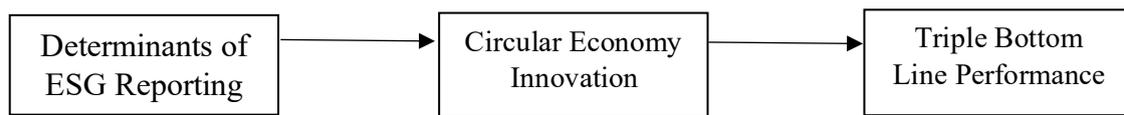


Figure 1: Conceptual Diagram

In addition, this study is focused on basic combined phrases such as “ESG Reporting”, “Circular economy”, “Triple Bottom Line”, “Manufacturing Companies” and “Philippines”. This article review includes peer-reviewed research and conceptual papers published between 2015 and 2025. Clearly this was about corporate sustainability and circular manufacturing for our Philippine industry. Studies that were not peer-reviewed, duplicates or had no connection to sustainable manufacturing techniques were excluded.

Two independent examination of the studies was carried out independently to ensure a fair and accurate selection. Whenever they had differing views on a study, they expressed them openly, and reached an agreement, by making certain that only research with a relevant influence on ESG reporting and circular economy outcomes was included.

Initially, nearly 155 eligible records were identified but each subsequent study had both independent title, abstract, and full text screening according to pre-defined relevance and

quality criteria. We used the Joanna Briggs Institute checklist for quality appraisal as it is a more practical, flexible assessment tool to support the process across a wide range of different academic disciplines, including theory and sociology, allowing for systematic evaluation and evaluation of various sources in a clearly understandable way. In the end sixty-one (61) core studies were retained for thematic coding and in-depth analysis.

A simple, consistent table summarized important aspects and conclusions of data from the studies. Across the research, four main topics were highlighted, including “what drives ESG reporting (e.g, firm size and industry risk), how circular practices are adopted (e.g, through resource loops and the 10-R approach), results for people, planet, and profit, and the limitations of each factor, including potential selection bias and variation in the way these firms report financials, and calls for future research to trace these issues over time in order to have better support.

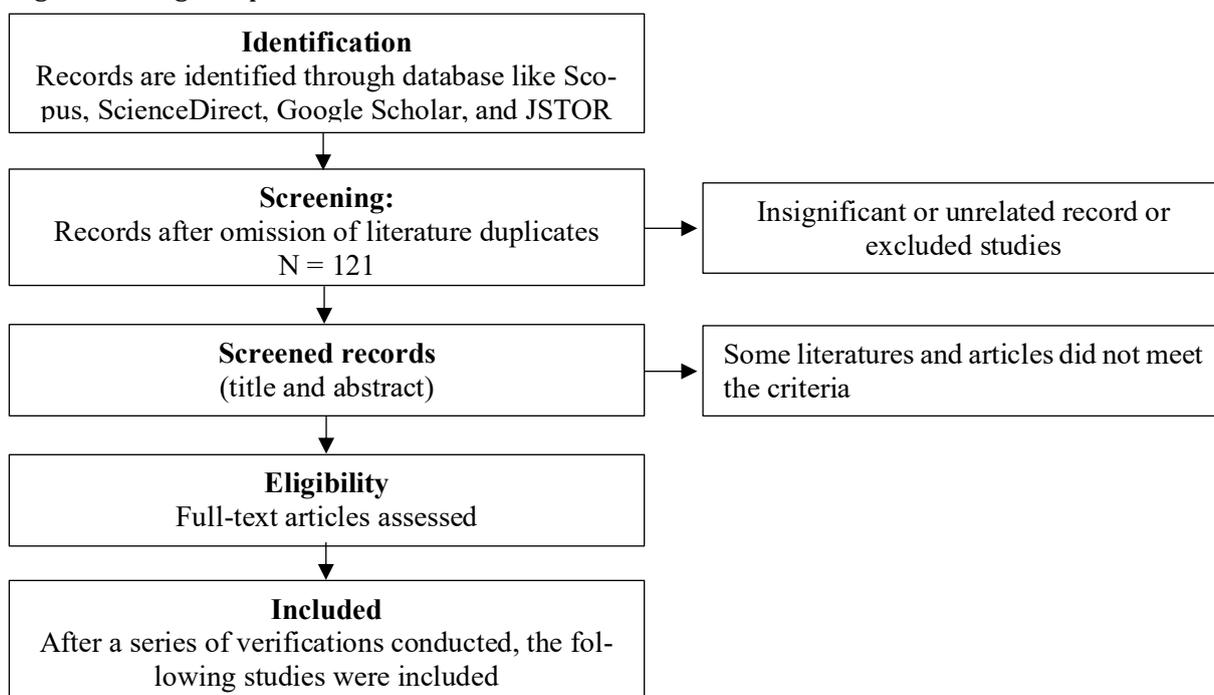


Fig. 2. PRISMA Diagram

## Results and Discussion

### *Determinants of ESG Reporting*

The present assessment demonstrates that regulatory expectations are the main external influence on ESG reports in the Philippines, in particular, the implementation of the SEC Memorandum Circular No. 4 (2019), which moved sustainability reporting from being voluntary to compulsory for listed companies (Securities and Exchange Commission, 2019). Prior to the enforcement of this rule, only about 21.72% of firms voluntarily reported, with a peak of 96.13% in 2020 following regulation (Omeir et al., 2024; Lim et al., 2024). Although this rapid increase shows the influences of regulation on ESG, it also begs the question of whether these reports are demonstrating robust ESG and just compliance. Corporations may be responding to “reporting-type” rather than to actual gains in environmental care, social responsibility, or governance. Industry risk is yet another important determinant: firms in environmentally sensitive fields such as mining, energy, and power have a common tendency to report greater environmental information in an effort to maintain desirable public relations and to satisfy heightened stakeholder demands related to accountability (Quinco, 2024; Omeir et al., 2024). In addition, market exposure is important particularly as listed international companies or those that operate in global markets are obliged under added pressure to conform to global rules and standards, such as the Global Reporting Initiative (GRI) that they comply with to sustain investors’ trust and credibility in them (Antoni, 2025; Quinco, 2024). These studies together show that with entire regulation, industry-specific risks along with global market forces push companies down the path of more open ESG reporting.

There are considerable internal company factors that determine how detailed an ESG report is. Larger companies tend to have the resources, personnel and expertise to make a proper disclosure (Quinco, 2024; Antoni, 2025). The integration of environmental, social and governance factors into decision-making is also essential to sustainable finance (Birti et al., 2025). Smaller firms, however, are confronted with issues where they have only limited resources, poor technical capability and

reporting instruments suitable for their size (Binaluyo, 2025). Leadership also carries great weight, as the degree to which upper management engages in ESG targets, prioritize stakeholder relationships and systems thinking, sustainability is embedded in a strategy rather than an addendum to management practice (Decena III & Abellanosa, 2022; Literal, 2020). Robust company internal audit processes, and robust organizational culture, also enhance a firm’s capacity to present transparent top-quality sustainability information (Espino & Mutuc, 2024).

### *Circular Economy Innovation*

Circular economy innovation is a departure from the “take, make, and throw away” system and a transition to a design-for-the-longer manner of work where products are designed to last longer, be reused, and be recycled so as to minimize waste and conserve natural resources (House Bill No. 2479, 2025). This philosophy underpins the 10-R hierarchy, telling businesses to start with the most effective actions, such as eliminating unnecessary raw materials, and redesigning product design before advancing to recycling or recovery. In a more recent wave, initiatives even call attention to the restoration of nature with techniques such as regeneration and rewilding, so businesses don’t simply avert harm, but contribute to betterment in the natural environment (Kopnina et al., 2025). The country is solidifying this transition under the extended producer responsibility (EPR) Act of 2022 in the Philippines which obliges some companies to be responsible for the collection and care of product waste and improvement in product design to facilitate circularity (Bueta et al., 2023, DENR, 2023). This is also driven by the Philippine Action Plan for Sustainable Consumption and Production that sets a national agenda on how to enhance industry resource efficiency, while enabling economic expansion not to increase environmental burdens on the economy (National Economic and Development Authority, 2023).

With the advancement of new technologies, particularly cutting-edge AI systems and automation technology, it is becoming increasingly common for Philippine manufacturing sectors

to adopt circular practices. In certain situations, the above systems when integrated into supply chain management and workflow systems have a significant effect on environmental performance, and also reduce energy use by up to 90% and CO2 emissions by up to 97% compared to manual processes. But these results derive from tiny pilot studies and reflect perfect conditions. Considering this is still nascent AI in Philippine manufacturing, these numbers need to be viewable as forward looking and not current industry-wide averages. In addition to this AI there are also enabling innovations such as cloud-based computing and computerized activities that minimize the use of physical inputs, together with product modularity in that damaged parts can still be replaced rather than discarded products (Gosmar et al., 2025). For a majority of SMEs, circular innovation is also more feasible (i.e sharing of equipment or developing waste into other productive tools such as EcoBricks or recycled sources) for building a resilient and environmentally friendly business (Lim et al., 2024; GRI, 2022).

**Triple Bottom Line Performance**

The triple bottom line has to do with the business success in a more holistic manner—not only profit but how a company cares for people and the environment (Decena III & Abellanosa, 2022; Literal, 2020). In a country where many manufacturers do so — Region XII in particular — strong performance in these areas is often associated with the balance of responsible leadership and sound financial management. In the Philippines, while the link between ESG reporting and financial performance is emerging, findings also vary as it pertains to the way in which performance is measured (Espino & Mutuc, 2024; Jua et al., 2022).

While environmental disclosures are now obligatory for public firms under SEC Memorandum Circular No. 4, research indicates general CSR activity is not always linked to a prompt positive impact on the stock return. Yet robust governance reporting has been associated with better financial metrics, especially a better return on equity and more sound cash flow margins. Moreover, the social dimension of reporting, which relates to labor and human rights is related in positive relationship to ROA, which demonstrates how investors/stakeholders want organizational accountability toward people (Odima, 2025). To maintain these gains, Cruz (2022) mentions that manufacturing enterprises should use internal auditing systems with proven positive impact on firm performance and CSR implementation through rigorous system monitoring and reporting of sustainability targets. In the long run a better TBL performance should mean a movement from sustainability in a "token gesture" to sustainability as a part of corporate governance and strategic orientation (Antoni, 2025; Literal, 2020). More so, Hourneaux et al. (2018) found that the degree of use and usage of environmental and social indicators has positive linkages with the employment of economic, environmental, and social indicators and that although economic, environmental, and social indicators are used differently in firms, there is no confirmation of positive association between the degree of use of these indicators and the use of economic indicators. They also pointed out in their study how to measure sustainable performances for industrial companies and also said that the degree of use in the three dimensions of triple bottom line differences are different.

1. Summary Table of Literatures

Author(s) & Year	Country/Region	Method	Main Findings
Omeir, Ali M. & Mandigma (2024)	Philippines	Descriptive statistics, test of difference, and two-way ANOVA	Sustainability reporting compliance increased from 21.72% to 96.13% following the 2019 SEC mandate; energy and emissions are the most disclosed environmental items.

Author(s) & Year	Country/Region	Method	Main Findings
Quinco (2024)	Philippines	Quantitative (frequency and percentage distribution)	Large firm size, international market exposure, and high industry risk are driving the provision of comprehensive sustainability reports.
Binaluyo (2024)	Philippines (Metro Manila)	Interpretative Structural Modelling (ISM) and MICMAC Analysis	Absence of regulatory frameworks and government support are the leading barriers to sustainability reporting adoption for SMEs.
Antoni (2025)	Indonesia	Multiple linear regression analysis	Sustainability reporting greatly influences investors' decisions based on the environmental and governance aspects that are the most dominant factors.
GRI (2022)	ASEAN (ID, MY, PH, VN)	Case study analysis of SMEs	The small firm reports rely on personal founder values but medium companies report to satisfy regulatory requirements and those of large multinational buyers.
Legaspi, Avila & Castro (2024)	Philippines	Framework mapping and frequency analysis	The majority of industrial companies use the SEC Sustainability Reporting Template; however, few still have external assurance or formal sustainability governance structures.
Gosmar, Pallotta & Zenezini (2025)	Global / Italy	Agentic AI sustainability assessment framework	Integration of Agentic AI workflows into supply chains brings a 70–90% reduction in energy consumption and 90–97% reduction in CO2 emissions, compared to manual operations.
Birti, Maurino & Osborne (2025)	Italy / Europe	Fine-tuning LLMs on the ESG-Activities benchmark	Fine-tuning LLMs on the ESG-Activities benchmark Fine-tuned open-source LLMs dramatically outperform zero-shot approaches in terms of linking textual descriptions to certain activities in the ESG taxonomy.
Kopnina, Fellingner, de Jong & Bowden (2025)	Global / Romania	Circularity Scoring Model (CSM) and updated R-hierarchy	CE + ESG framework helps the "E" become a matter of action; the study introduced "Regeneration" and "Rewilding" to the top of the 10-R hierarchy.
Salvacion & Campos (2024)	Philippines	Systematic thematic literature review	Identification of key barriers to CE innovation include insufficient regulatory framework, low awareness, and ineffective waste management resource recovery.

Author(s) & Year	Country/Region	Method	Main Findings
Bueta, Domingo & Manejar (2023)	Philippines	Institutional analysis and development (IAD) framework	The EPR Act of 2022 is a milestone to CE, but it falls short in terms of: clarity of the scope of work, implementation of the National Ecology Center, involvement of the informal sector.
Lim, Ang, Nubla & Matugas (2024)	Philippines	Data compilation, household and junkshop surveys	Created a baseline of 100 CE indicators; identified an increasing trend in green sector workers, but mentioned that MRFs fell short of national waste diversion targets.
Agyemang, Osei & Kongkuah (2025)	Emerging Markets (SSA)	Econometric panel analysis	Environmental & Social Disclosures positively affected CE Adoption, while eco-innovation moderates and magnifies the effects of ESG disclosures.
Decena & Abellanos (2022)	Philippines (Region XII)	Structural Equation Modeling (SEM)	Responsible leadership (stakeholder relations, ethics) and green marketing orientation are the best predictors of Triple Bottom Line performance.
Cruz (2022)	Philippines (NCR)	Correlational, multivariate, and moderation analysis	Internal audit systems significantly enhance firm performance and CSR, though their direct effect on environmental consciousness is not yet statistically significant.
Espino & Mutuc (2024)	Philippines	Longitudinal regression analysis (2019-2022)	CSR performance does not directly relate to stock returns, while governance performance has to a large extent been positively correlated and significant to return on equity (ROE).
Juan, Marin, Reyes & Sy (2022)	Philippines	Multilevel modeling	The social dimension of sustainability reporting (labor practices and human rights) has a statistically positive relationship with ROA and ROE.
Literal (2020)	Philippines (Region XII)	Multiple regression analysis	Sustainable management practices are the largest predictor of sustainability performance (TBL), followed by strategic orientation and organizational culture.
Gunsayan & Guhao (2020)	Philippines (Region XII)	Structural Equation Modeling (SEM)	Organizational performance is most effectively anchored on innovation strategy (only defined

Author(s) & Year	Country/Region	Method	Main Findings
Srivastava, Dixit & Srivastava (2022)	Global	Critical literature review	by product innovation) and reinforced by top management support. TBL has been criticized for being inherently ambiguous and failing its original purpose, often acting merely as a tool to explain existing CSR concepts.
Hourneaux Jr, Gabriel & Gallardo-Vázquez (2018)	Brazil	Confirmatory factor analysis (CFA) and SEM	Confirmed positive relationship between environmental and social indicators, but these indexes have different degrees of application in industries.

The outcomes of the literature analysis yield a thorough overview of how ESG reporting, circular economy innovation, and Triple Bottom Line (TBL) performance are intricately linked within the Philippine manufacturing sector today. This chapter examines these associations from three dimensions: regulatory pressures, technological change, and organizational capacity.

The literature identifies regulatory mandates as the single most significant determinant for the surge in sustainability reporting in the Philippines. Before the issuance of the SEC Memorandum Circular No. 4 of 2019, voluntary reporting by publicly traded companies (PLCs) averaged only 21.72%, but reached more than 96% by 2020 when a "comply or explain" approach was put in place (Inquirer.net, 2024; Omeir, 2023). The industry risk profile is one of the largest drivers beyond regulation. Firms in 'environmentally sensitive' sectors – mining, energy, power, etc. – show significantly high rates of disclosure to maintain legitimacy and to withstand public scrutiny (Qiuenco, 2024; Omeir, 2023). Additionally, the size of the firm and its exposure to the market matter—large firms with large parent companies (and many of their international shares in the listed companies) have the resources and worldwide investors' pressure to provide quality and standardized reports (Inquirer.net, 2024; Qiuenco, 2024). Conversely, MSMEs are still faced with "foundational gaps" such as the lack of financial, strategic and technical readiness to design sustainability initiatives, for monitoring and planning (Binaluyo, 2024; NEDA, 2020).

The innovation of circular economy (CE) is moving beyond direct bottom-up discharge of waste, to systemic changes (Lim et al., 2024; Bueta et al., 2023). This shift in approach is also being catalyzed by the Philippine Extended Producer Responsibility (EPR) Act of 2022 (RA 11898) that leads to a paradigm shift to accountability whereby the industry will be required to account for 80% of the plastic footprint by 2028 (PCX Markets, 2025; DENR, 2023). According to the sources, "Regeneration" and "Rewilding" are an emerging 10-R order that stresses that circularity must proactively reestablish ecosystems instead of passively preventing the effects of harm (Kopnina, 2025). Technological advancements are also driving significant catalysts. For instance, the combination of Agentic AI in combination with multi-agent automated workflows has resulted in a reduction in supply chain energy consumption by 70–90%, CO2 emission by up to 97% (Gosmar, 2025). At the ground level, initiatives, such as EcoBricks, which uses 50 to 100 pieces of plastic waste and revival in the sericulture industry by fashion brands such as Bayo, testify to the many ways in which CE innovation can be initiated in the local context (Gosmar et al., 2025; Bayo Manila Inc., 2021).

Responsible Leadership and Strategic Financial Management synergies drive superior Triple Bottom Line (TBL) performance where People, Planet and Profit are balanced. According to research among Philippine food manufacturers, socially and environmentally successful processes are underpinned by responsible leadership (ethics + systems thinking +

stakeholder relations) + green marketing orientation (Decena III & Abellanos, 2022). Although the association between overall CSR and immediate stock returns is evolving and yet to be discovered in an exhaustive manner, specific dimensions have been positively correlated with both positive factors; governance disclosures have a significant positive correlation with return on equity (ROE) and social reporting (labor practices and human rights) has a significant correlation with return on assets (ROA) (Espino & Mutuc, 2024; Juan et al., 2022). Moreover, the implementation of internal audit systems greatly improves firm performance and CSR and its indirect correlation to environmental awareness is still maturing in the manufacturing industry (Cruz, 2022).

### Limitations

The study acknowledges some methodological and data limitations that hinder the in-depth analysis. One major limitation is the existence of significant data gaps, with 39 of 100 identified circular economy (CE) indicators in the Philippines lacking any data sources (Lim et al., 2024). That data gap has made it far more difficult than previously to quantify the social dimension of triple bottom line analysis. The fundamental issues of worker well-being, the benefits to communities and social inclusion remain largely neglected, thus most findings are dominated by environmental and governance metrics. In addition, a number of firm-level works are based on binary disclosure indices – simply assigning "1" for disclosure and "0" otherwise – that may not reflect the quality and the reliability or the actual impact of a firm's sustainability projects (Espino & Mutuc, 2024). The emerging regulatory landscape makes data consistency even more challenging as the SEC's "comply-or-explain" logic enables firms to refuse to provide material information if they provide a reason for the omission resulting in a heterogeneous data field (Lim et al., 2024; Omeir et al., 2023; Inquirer.net, 2024).

The theoretical frameworks deployed in the discussed literature are also fundamentally flawed. The Triple Bottom Line (TBL) model has received criticism from scholars as fundamentally ambiguous and incapable of fulfilling its purpose to transform capitalism, so often

functioning as a framework for understanding existing corporate social responsibility (CSR) (Srivastava et al., 2022). Also, the legal definition for circular economy, set by the EPR Act of 2022, is considered a bit restricted as it focuses almost exclusively on downstream waste diversion and lacks a mandatory focus on upstream innovation (product redesign and the "Regeneration" of natural systems) (Bueta et al., 2023). In light of this limitation, the ESG reporting can be redesigned to move beyond a focus on waste diversion to actually stimulate upstream innovation. This could involve requirements forcing companies to disclose how products, materials, and lifecycle planning are all integrated into their design, incorporating ESG considerations and contributing to the regeneration of natural systems. If companies were able to assign a segment of ESG to these early-stage decisions, they'd have to shift part of ESG toward sustainability at the source as opposed to dependent on end or pipe waste solutions. Finally, the majority of earlier studies concentrate mainly on developed countries, not entirely reflecting the socio-economic and institutional aspects of emerging markets such as the Philippines (Espino & Mutuc, 2024; Quinco, 2024; Agyemang, 2025). Many local researches on the same matter were made in the COVID-19 pandemic because of the severe economic instability and possible skewing of performance data and inability to account for the long-term operation trend in a stable market (Legaspi et al., 2024; Espino & Mutuc, 2024).

### Conclusion

The literature suggests that in the Philippines, ESG reporting is a key driver of a systemic transition to circularity and comprehensive performance as a result of legislative mandates like SEC Memorandum Circular No. 4 (2019). The extent of disclosures also is heavily influenced by internal factors such as large firm size, international market exposure and high industry risk, since the most relevant to the firms is the business legitimacy and stakeholder trust. This reporting culture fuels the process of circular economy (CE) innovation, entrenched via the EPR Act of 2022 (RA 11898), which pushes a paradigm shift in the traditional post-conventional downstream

waste management industry to upstream product redesign and regenerative approaches. The benefits of technological developments like introduction of the Agentic AI also accelerate these gains by reducing energy consumed in the supply chain and CO2 emissions by over 90%. The best hope is that strong TBL performance depends on how best responsible leadership will be integrated into innovation strategy, as demonstrated by significant positive correlation of social reports about labor practices and human rights and financial indicators, such as ROA and ROE, with the company.

However, important methodological and data-related limitations remain, most significantly, a core data gap that was noted in which 39 of the 100 identified circular economy indicators in the Philippines still lack credible data at present. Methodologically, we find that many firm-level studies depend on binary disclosure indices that do not accurately depict the true quality or reparation potential of sustainability practices. Theoretical frameworks such as the TBL have come under fire for having inherent lack of clarity or for the fact that they function only as a “balancing act” that does not move beyond typical corporate social responsibility (CSR) constructs; hence, one of the original developers of the idea recommends a “product recall” of the notion. The current reporting landscape also is in its infancy, as much of the existing data was collected during the COVID-19 pandemic period and the economic uncertainties associated with COVID-19 added to this time may distort long-term performance trends. For MSMEs, fundamental barriers, such as lack of required regulatory frameworks and lack of technical capacity, have to some extent prevented sustainable and effective performance reporting across the board and required supportive institutions to address gaps in circularity.

### **Acknowledgment**

This study would like to acknowledge the research experts who invested their time and effort in ensuring the coherence and quality of this research. This narrative literature review would not be made possible without the inclusion of all the works of other researchers

through their published studies taken from different databases.

### **Recommendations**

Following the literature evidence base and their limitations, the following prescriptions are presented as recommendations to improve the sustainability prospects of the Philippine manufacturing sector:

#### ***Policy and Regulatory Enhancements***

Recommendation for Regulators for the SEC and DENR for institutionalization of a national circular economy system in accordance with a well-developed statistical monitoring mechanism like the Philippine Statistics Authority (PSA) database. Such an initiative would mitigate current data gaps given that 39 out of 100 circular economy indicators lack a proven data source and that national versus local measures should be made more comparable in order to achieve measurement (Lim et al., 2024). Moreover, government bodies should also be involved in aligning the sustainability reporting system by establishing standards industry-by-industry (as opposed to a single model), because industry standardized standards provide a more accurate picture of a company's unique sustainability journey (Omeir et al., 2023). MSMEs are not only responsible but they are critical for sustainability; hence, to have a wider impact in the future, such regulations should cover more of the industry as they should go beyond the voluntary motivation on the part of the government but also be obliged to comply MSMEs with the EPR Act of 2022 which covers the micro, small, and medium enterprises at MSME, responsible for 90% of all Philippine businesses, and responsible for generation of plastic waste (Bueta et al., 2023; Tolentino, 2025; Inquirer.net., 2024).

#### ***Strategic Operational Shifts for Manufacturing Leaders***

Manufacturing leaders must go beyond treating sustainability as a “tokenistic gesture” to embed circularity in their governance practices and long-term strategy (Decena & Abellana, 2022; Literal, 2020). This entails a reorientation to upstream innovation in product designs for reuse, recyclability and the less use of

resources, rather than being dependent on waste being reduced through a downstream flow method (Bueta et al., 2023; NEDA, 2020). In order to facilitate this shift, organisations must implement Responsible Leadership practices, based on ethics, systems thinking, and proactive collaboration with stakeholders, which have been found to be the most powerful predictors of holistic success in Triple Bottom Line (Decena & Abellanosa, 2022). This is because firms can better position themselves in the market and make sure to remain profitable for the long term by linking business innovation strategies with customer needs and offering superior benefits to top management commitment to quality measures (Gunsayan & Guhao, 2020; Decena & Abellanosa, 2022).

### **Technological and Data Integration**

To improve the quality and reliability of ESG disclosures, firms should be investing in technology enablers, particularly Agentic AI and automated multi-agent systems that have the potential to reduce energy consumption by 90% and CO2 emissions by 97% in supply chain workflows (Gosmar, 2025). Finance teams should also engage in more holistic gap analyses comparing sustainability data controls to financial reporting standards and identifying where best to improve in order to ensure data is comparable, verifiable, and timely available (Accounting for Sustainability, 2024). In addition, the SEC and industry associations should encourage and, eventually, require third-party external assurance in sustainability reports performed by experts in the subject area to ensure the information disclosed is correct and builds the trust factor of potential global investors (Omeir et al., 2023; Legaspi et al., 2024). Therefore, the introduction of international frameworks such as the GRI or ISSB Standards is also good measure to provide local reporting interoperability and meet the conditions of a global capital market (Bangko Sentral ng Pilipinas, 2022; GRI, 2022).

### **Future Researchers**

Future researchers will need to address the major empirical data gaps by isolating the specific sources of data for the 39 missing circular economy indicators (specifically those on

MSME resource flows and the informal waste sector by Lim et al., 2024; Bueta et al., 2023). Long-term studies examining the transition from this passive "comply-or-explain" practice to the stricter PFRS (IFRS S1 and S2) mandatory standards by 2026 to determine whether greater disclosure leads to actual environmental remediation are sorely needed (practicalESG.com, 2026). Scholars will also need to measure the quality and relevance of disclosures other than relying on binary dimensions, maybe use the Circularity Scoring Model (CSM) or the updated 10-R hierarchy to see if such firms are moving into "Regeneration" to prevent/recover from harm (Kopnina et al., 2025). Finally, researchers need to examine the social and economic implications of the "sachet economy", but the substitution of new circular models with a market-focused 'sustainable economy' such as that of refilling stations, in order to support the social and environmental sustainability transitions in the Philippines, thereby also ensuring social inclusion of vulnerable informal workers and protecting their freedoms (Bueta et al., 2023; Tolentino, 2026).

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