Developing Circular Economy Business Models – One of the Tools for Effectively Navigating the ESG

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Global economic growth and intensifying international competition have led to the excessive consumption of non-renewable resources. The reviewed literature indicates that a primary challenge for effectively navigating ESG criteria is financial reporting - an issue that can be addressed through the adoption of new business models. The author proposes Circular Economy Business Models (CEBMs) as a pivotal tool in this transition. Research presented in this chapter suggests that the establishment of a circular economy (CE) is fundamentally dependent on the implementation of these models. By adopting CEBMs, individuals undergo a shift in behaviour, business vision, and values, impacting both their professional lives and their wider social and domestic environments. The author examines this issue through a systemic lens, clarifying complex interconnections. This is supported by two graphical representations: the first illustrates the links between CEBMs and ESG pillars, while the second explores the relationship between individual behavioural change and a proactive ESG-navigating attitude.

Keywords:
ESG,
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1 Introduction

The growth of the world economy and the strengthening of international competition has led to the excessive use of non-renewable resources. Scientists have warned against this process since the last century, and the issue of the need for sustainable development has become one of the foremost challenges of the age. ESG investing has its roots in the "socially responsible investing" movement that was born in the 1970s and 1980s (Clahane, 2024). Subsequently, achieving sustainability and resilience became the goal for which numerous international agreements and documents have been adopted, especially in Europe (European Commission, 2020a; 2019a; 2019b). "There is only one planet Earth, yet by 2050, the world will be consuming as if there were three. Global consumption of materials such as biomass, fossil fuels, metals and minerals is expected to double in the next forty years, while annual waste generation is projected to increase by 70% by 2050" (COM, 2020b, 98 final, p. 2). "Sustainability and the transition to a safe, climate-neutral, climate-resilient, more resource-efficient and circular economy are crucial to ensuring the long-term competitiveness of the Union economy. Sustainability has long been central to the Union project, and the Treaty on European Union and the Treaty on the Functioning of the European Union (TFEU) reflect its social and environmental dimensions" (Regulation, EU, 2020/852, p.1). Achieving a climate-neutral and circular economy without diffuse pollution requires the full mobilisation of all economic sectors (Directive, EU, 2022/2464). According to the Regulation of the EU Parliament (SEC, 2022, 165 final), "by applying the Ecodesign approach to a very broad range of products and enabling it to set a wide range of targeted product requirements, this regulation seeks to address the most detrimental environmental impacts of products. It therefore lays down a framework for setting ecodesign requirements based on the sustainability and circularity aspects listed in the Circular Economy Action Plan" (p.2).

This chapter provides a literature review on ESG navigation challenges. It includes both a description of general difficulties and an introduction to the experiences of different countries. The review of the relevant literature continues with a discussion of the circular economy (CE) and its business models. Here, their special importance in overcoming the challenges of extending resource use and minimizing waste is highlighted. The author further develops the idea that the introduction of circular economy business models (CEBMs) will lead to overcoming ESG navigation

challenges, and offers a systemic depiction of this process. This is supported by two graphical representations: the first illustrates the links between CEBMs and ESG pillars, while the second explores the relationship between individual behavioural change and a proactive ESG-navigating attitude. The chapter ends with brief conclusions.

2 Literature review

2.1 ESG navigation challenges – a brief literature review

This section reviews the extant literature across three primary domains: ESG criteria, the CE, and CEBMs (encompassing both theoretical frameworks and international case studies). The objective is to identify shared challenges inherent across these fields. To address these commonalities, the subsequent section proposes a systemic approach, supported by two original graphical representations.

Over the last few decades companies' performance has come under scrutiny, not just for financial returns, but also for their impact on the environment, social welfare, and governance practices (Healy et al., 2026; Casalegno et al., 2024; Gagnidze, 2024a; Clark et al., 2015). There are a variety of approaches to identifying ESG navigation challenges. Githui, & Njuru (2026) link the ESG framework to a company's competitiveness. The OECD (2025) has developed a number of metrics across the E, S, and G categories. Bernard et al., (2025), revealed clear variations in ESG priorities across hospitality subsectors. Andréason & Miskolczi (2024) examining the relationship between ESG and bankruptcy risk for European manufacturers. Treepongkaruna et al., (2024) show the influence the size of a corporate board has on firms' ESG controversies. Their analysis suggests that businesses with larger boards are more effective in mitigating ESG controversies. Specifically, a rise in board size by one standard deviation results in a decline in ESG controversies by 4.30%. Larger boards, with more human capital and more interactions with stakeholders, promote sustainability more effectively.

Dong (2023) stresses the need for senior leadership support, establishment a systematic framework, and effective communication with stakeholders for successful ESG strategy implementation. Veeramani et al., (2023) argue ESG impact types and present a comprehensive system leveraging ensemble learning techniques,

capitalizing on early and late fusion approaches. Their system offers a comprehensive ESG impact type identification solution, contributing to the responsible and sustainable decision-making processes vital in today's financial and corporate governance landscape. Liu et al., (2023) explore the construction of a reliable ESG scoring engine, with a focus on the importance of data sources and quality, selection of ESG indicators, weighting and aggregation methodologies, and the necessary validation and benchmarking procedures. Different data types, namely self-reported data, third-party data, and alternative data, are critically evaluated for their respective merits and limitations.

McKinsey&Company identifies The five links, which are a way to think of ESG systematically, namely: *Top-line growth* (When governing authorities trust corporate actors, they are more likely to award them the access, approvals, and licenses that afford fresh opportunities for growth), *Cost reductions* (Among other advantages, executing ESG effectively can help combat rising operating expenses (such as raw-material costs and the true cost of water or carbon), which McKinsey research has found can affect operating profits by as much as 60 percent), *Regulatory and legal interventions* (A stronger external-value proposition can enable companies to achieve greater strategic freedom, easing regulatory pressure), *Productivity uplift* (A strong ESG proposition can help companies attract and retain quality employees, enhance employee motivation by instilling a sense of purpose, and increase productivity overall) and *Investment and asset optimization* (A strong ESG proposition can enhance investment returns by allocating capital to more promising and more sustainable opportunities (for example, renewables, waste reduction, and scrubbers) (McKinsey&Company, 2019, pp.4-7).

It is important to learn about the experiences of individual countries in navigating the ESG. Strouhal et al., (2025) explore stakeholder perceptions of ESG reporting in *Czechia* and *Estonia*, two EU member states with differing corporate governance traditions, to identify key drivers, challenges, and the alignment of ESG disclosure with stakeholder expectations in transitional economies. Effective ESG transition in Czechia and Estonia requires coordinated efforts, including government support for SMEs, clear regulatory guidance, industry knowledge-sharing, and responsible financial sector engagement to navigate complexities and realize potential benefits. Del Sarto (2025) examines the impact of ESG controversies on bank risk, focusing on the moderating role of corporate governance. Using a dynamic panel dataset of

88 European banks from 2013 to 2020, we analyze two key risk measures: the Z-score, indicating financial stability, and risk- weighted assets (RWAs), reflecting risk exposure. The findings reveal that banks facing ESG controversies are exposed to heightened risk, with corporate governance playing a crucial role in moderating these effects.

Fodouop Kouam (2025) uses a quantitative research paradigm to analyze data from a sample of 250 companies (from *Brazil, India, South Africa, Mexico, Vietnam, Indonesia, Nigeria, Malaysia, Thailand*, etc.) across diverse sectors, including finance, manufacturing, energy, and technology. According to the authors, significant barriers to effective ESG integration include weak regulatory frameworks, cultural resistance, and a lack of high-quality ESG data. Samsudin et al., (2025) argue that ESG controversies reflect the responsibility to which corporate social responsibility (CSR) committees within firms act with genuine intentions. With the continuous development of ESG practices and the increasing number of environmental and social controversies in the *Malaysian* corporate environment, this study examines whether ESG controversies (ESGCON) influence the relationship between CSR committees and ESG performance among publicly listed firms in Malaysia. Sari et al., (2025) examine the influence of corporate governance and ESG disclosure on firm value in publicly listed companies in *Indonesia.* The analysis indicates that board independence and ESG disclosure have a significant positive impact on firm value, while board size shows a negative but insignificant effect. These findings suggest that strong governance structures and transparent ESG practices contribute to market-based performance and investor confidence.

Keegan (2024) reveals a significant relationship between Greenhouse Gases (GHG) emissions and financial performance, indicating that reduced emissions are often associated with increased revenue in the *USA*. The study also finds that the Sustainability Accounting Standards Board (SASB - is a voluntary reporting framework that provides guidance for 77 industries. Thise standards are guidelines to companies for reporting on ESG matters that have a material financial impact on business, governmental and nonprofit entities) and GHG Protocol are the most widely adopted frameworks, reflecting a trend towards greater transparency and accountability in sustainability reporting. Utilizing quantitative methods, Elamer & Boulhaga (2024) analyze data from 5360 firm-year observations. Their findings reveal a significant negative relation between ESG controversies and firm

performance. However, well-defined corporate governance frameworks and internal ESG strategies mitigate these adverse impacts and can transform these controversies into growth opportunities and reputation enhancement. A comparative analysis involving *the United Kingdom* and other European Union nations highlights the influence of geographical and regulatory contexts in shaping this dynamic. Xu et al., (2024) investigate the relationship between ESG performance and corporate resilience utilizing data from *Chinese*-listed companies from 2010 to 2022. The study finds a positive and statistically significant relationship between corporate resilience and ESG performance, thereby providing new evidence of the influence of ESG performance on corporate resilience. Biswas et al., (2024) outline that CSR in *India* primarily focuses on monetary contributions to social causes but overlooks corporate externalities. This underscores the growing importance of ESG, reflecting global trends towards market-driven practices and regulatory interventions. In essence, the transition from CSR to ESG in India is a call to strategic leadership, collaboration, and an unwavering commitment to continuous improvement.

2.2 Formation of CE through the development of CEBMs

The Circular Economy Action Plan underlines that, 'for citizens, the CE will provide high-quality, functional and safe products which are efficient and affordable, last longer and are designed for reuse, repair, and high-quality recycling' (Regulation, EU, 2024/1781, p.1). 'CE' means an economic system whereby the value of products, materials and other resources in the economy is maintained for as long as possible, enhancing their efficient use in production and consumption, thereby reducing the environmental impact of their use, minimising waste and the release of hazardous substances at all stages of their life cycle, including through the application of the waste hierarchy" (Regulation, EU, 2020/852, p. 13). There are also 12 main and 2 additional sub-points that describe in detail the activities that contribute to the transition to a CE. In our opinion, these activities should be implemented through the implementation of CEBMs. One study estimates that applying CE principles across the EU economy has the potential to increase EU GDP by an additional 0.5% by 2030 creating around 700 000 new jobs (Cambridge Econometrics, 2018).

Many researchers are examining the circular economy and its business models from different perspectives. Rumasukun (2026) examines the integration of CE principles into supply chain management (SCM) as a strategic response to Sustainable Development Goal 12 (SDG 12) on responsible consumption and production. Using a qualitative literature-based approach, the research synthesizes recent theoretical advancements and empirical evidence to explore how CE reshapes supply chain structures, operational processes, and sustainability outcomes across global industries. Crammond et al., (2026) explore how Artificial Intelligence (AI) serves as a critical enabler for transitioning from linear to circular business models and ecosystems. Chaudhary et al., (2025) explain how digital capabilities assist in developing organizational capabilities in the form of pollution control, stewardship, sustainability, and regeneration strategies.

Engzell and Kambanou (2024) discuss: "Classic long-life; Hybrid; Access; Performance; Encourage efficiency; Gap exploiter or extending product value; Extending resource; Value and Industrial symbiosis CEBMs" (p. 555). Tuzemen and Kunday (2023) categorised circular start-ups under five categories: 1) Recycling Companies, 2) Sharing Based Endeavors, 3) Recycled Material Users, 4) Second-Hand Product Marketplaces, 5) Waste Management Platforms. According Winquist et al., (2023) "the R-strategies can be classified under three approaches: 1) smarter product use and manufacture (R0 Refuse, R1 Rethink, R2Reduce), 2) Life extension strategies (R3 Reuse, R4 Repair, R5 Refurbish, R6 Remanufacture, R7 Re-purpose), and 3) creative material application (R8 Recycle, R9 Recover) (p. 3). Henry et al., (2020) have given five circular start -up archetypes: design-based, waste-based, platform-based, servicebased and nature-based start-ups. The OECD (2019) identifies "five CEBMs: Circular supply models; Resource recovery models; Product life extension models; Sharing models and Product Service System Models" (p.4).

Critical perspectives on the CE and CEBMs are also well-documented within the scientific literature. Marjanović et al., (2026) critically examine the role of the circular economy in urban and regional governance, focusing on its social and political dimensions, often overlooked in favour of technical and economic considerations. Corvellec et al. (2022) criticise the concept of the circular economy, arguing that it possesses diffuse boundaries and unclear theoretical foundations, and that its implementation faces significant structural obstacles. They contend that the circular economy is built upon an ideological agenda dominated by technical and economic

perspectives; consequently, it offers uncertain contributions to sustainability and serves to depoliticise the discourse surrounding sustainable growth.

Thus, despite the many forms of CEBMs mentioned above, they all have in common that their goal is to extend the viability of resources while producing minimal waste.

3 How does the implementation of CEBMs contribute to Navigating the ESG? - A Systemic Approach

"ESG" concerns are driving businesses globally to rethink, re-calibrate and sometimes even re-invent their business models, including merger and acquisition (M&A) transactions (Afsharipour, 2023). According to the Cambridge Econometrics (2018) sectors that produce and process raw materials will decline in size while the recycling and repair sectors will experience additional growth (p. 6). From all of the above, it can be seen that the introduction of CEBMs stimulates the formation of CE, which is in the interest of the rational development of the world economy.

The impact of the introduction of the CE and its business models on sustainability is discussed with a systemic approach by Dominici and Gagnidze (2025). They present the systems, where each of the, above mentioned, five CEBMs simultaneously affects the process of achieving sustainability (at the macro and micro levels). These models address environmental concerns by reducing waste and emissions, promoting economic growth through resource efficiency, and enhancing social well-being by creating healthier living environments and improving job prospects (pp. 203-205). By developing hypotheses based on theoretical and graphical representations Gagnidze (2024b) demonstrates the potential benefits of integrating circular sustainable principles into business practices.

This time, the impact of CEBMs on the effective navigation of ESG will be presented using a systemic approach. In general, a schematic representation of any process always reflects reality in a simplified way, therefore, the detailed models of CEBMs discussed above will not be taken into account. When building the system, 5 "Re-"models will be used: "REduce, REuse, REmake, REcover, REnew" (Shields, 2019, p. 2). It can be seen from Figure 1, that the implementation of these models

will directly affect two directions of ESG (Environmental and Social). Together, they will, in turn, affect the third direction, namely "Governance".

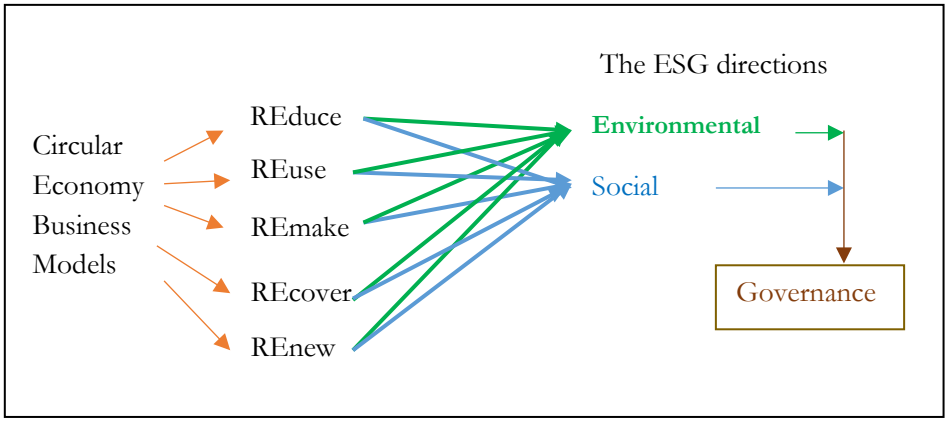

Figure 1: Interconnections between CEBMs and the ESG directions
(Source: own).

It is worth noting that in order to effectively implement CEBMs, individuals need to be prepared for change (Salazar et al., 2023). They need to change their lifestyle (reduce waste, recycle, renew, etc.), their choices for themselves and others (e.g., purchase items made with CEBMs and gift(s) for others) (see Figure 2).

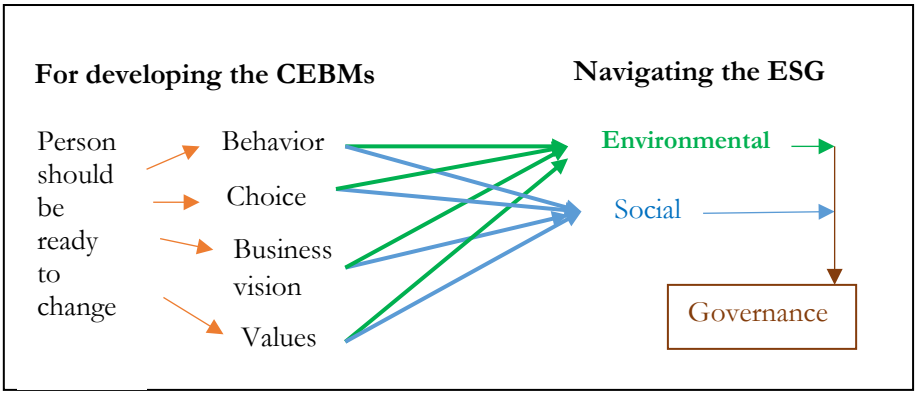

Figure 2: Individual behavioral change and the ESG navigating attitude
(Source: own).

The introduction of a CEMBs and such a vision of business stimulates the rational behavior of individuals not only in families, but also in workplaces (whether in their own business or as an employee in such a business), which forms values, and this attitude becomes contagious to others. As can be seen from Figure 2, the introduction of CEBMs will directly affect two directions of ESG, which in unity will affect the third direction. It is worth noting that with such an attitude, management becomes much easier.

4 Conclusions

Today, companies of every size are judged not just by what they produce, but by how responsibly they operate. ESG reporting integrates these principles into core strategies; driving innovation, trust, and long-term results. Thus, ESG reporting has evolved from a niche corporate trend into a business imperative (ESG Report, 2025). The analysis of the literature presented in the chapter confirms that the intensive and irrational use of non-renewable resources already became apparent in the last century. Many regulations have been developed in an attempt to counteract this process. Calls for sustainable development have been replaced by the development of measures for the effective management of sustainability and ESG, and the development of plans for the formation of a CE. In countries moving in this direction, different types of challenges have been identified. The chapter suggests the possibility of systemic development in the effective management of ESG through the development of CEBMs. This is illustrated by two systems developed by the author. The systems presented in this chapter demonstrate that if policymakers can design effective incentives (such as promoting products from CEBMs by highlighting their environmental benefits, including them in product bundles, or offering various promotions) and regulations (for example, waste-reduction taxes, mandatory waste separation, and the use of reusable items), then ESG navigation will be significantly more straightforward.

The chapter is conceptual in nature (it advances theoretical understanding by synthesizing existing literature to propose new models, rather than presenting new empirical data) and is limited by the lack of practical research, which the author will conduct in the future. There is significant scope for deploying the systemic approach proposed herein to facilitate the transition towards CEMBs within individual industrial sectors.

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