

Sustainable Plastic Management and Circular Economy Strategies in Unilever Indonesia

Circular Economy in
Multinational
Company

Yuli Setiyono

Universitas Pendidikan Nasional; Denpasar, Indonesia

E-Mail: Uli.tiyon@gmail.com

5635

Luh Putu Mahyuni

Universitas Pendidikan Nasional; Denpasar, Indonesia

E-Mail: mahyuniluhputi@undiknas.ac.id

Submitted:

OCTOBER 2025

Accepted:

DECEMBER 2025

ABSTRACT

The increasing volume of plastic waste has intensified environmental challenges globally, particularly in Indonesia, the second-largest contributor to marine plastic pollution. This study aims to analyze the implementation of circular economy principles in a multinational company committed to environmental sustainability, focusing on plastic waste management. A qualitative descriptive case study approach was employed, with data collected through in-depth interviews with sustainability managers, waste bank coordinators, MSMEs, and Environmental Agency officials, complemented by secondary sources including the 2024 Sustainability Report. Findings indicate that Unilever operationalizes circular economy through three key strategies: reduce, reuse, and recycle. The reduce strategy involves eco-friendly packaging innovations; the reuse strategy is implemented via the u-refill station program, promoting refill-based consumption; and the recycle strategy leverages a network of over 4,000 waste banks and advanced recycling technologies like CreaSolv®, managing over 90,000 tons of plastic by 2024. Successful implementation is influenced by economic, technological, social, regulatory, and collaborative factors, while challenges include infrastructure limitations, fluctuating recycled plastic prices, and low public awareness. The study highlights that circular economy is both a technical and social process, requiring multi-stakeholder engagement and systemic policy support to achieve sustainable circularity at scale.

Keywords: Circular Economy, Corporate Environmental Strategy, Recycling, Sustainability, Unilever Indonesia, Waste Management.

ABSTRAK

Meningkatnya volume sampah plastik telah memperburuk tantangan lingkungan secara global, khususnya di Indonesia, yang menempati posisi kedua sebagai kontributor terbesar sampah plastik di laut. Penelitian ini bertujuan untuk menganalisis penerapan prinsip ekonomi sirkular perusahaan multinasional yang berkomitmen pada keberlanjutan lingkungan, dengan fokus pada pengelolaan sampah plastik. Pendekatan penelitian yang digunakan adalah studi kasus deskriptif kualitatif, dengan data dikumpulkan melalui wawancara mendalam dengan manajer keberlanjutan, koordinator bank sampah, UMKM, dan pejabat Dinas Lingkungan Hidup, serta dilengkapi dengan sumber sekunder seperti Laporan Keberlanjutan 2024. Hasil penelitian menunjukkan bahwa Unilever mengimplementasikan ekonomi sirkular melalui tiga strategi utama: reduce, reuse, dan recycle. Strategi reduce diwujudkan melalui inovasi kemasan ramah lingkungan; strategi reuse diterapkan melalui program u-refill station, yang mendorong konsumsi berbasis isi ulang; dan strategi recycle memanfaatkan jaringan lebih dari 4,000 bank sampah serta teknologi daur ulang canggih seperti CreaSolv®, mengelola lebih dari 90,000 ton sampah plastik pada tahun 2024. Keberhasilan implementasi dipengaruhi oleh faktor ekonomi, teknologi, sosial, regulasi, dan kolaborasi, sementara tantangan meliputi keterbatasan infrastruktur, fluktuasi harga plastik daur ulang, dan rendahnya kesadaran masyarakat. Penelitian ini menegaskan bahwa ekonomi sirkular

JIMKES

Jurnal Ilmiah Manajemen

Kesatuan

Vol. 13 No. 6, 2025

pp. 5635-5646

IBI Kesatuan

ISSN 2337 – 7860

E-ISSN 2721 – 169X

DOI: 10.37641/jimkes.v11i2.1750

merupakan proses teknis sekaligus sosial, yang memerlukan keterlibatan berbagai pemangku kepentingan dan dukungan kebijakan sistemik untuk mencapai sirkularitas yang berkelanjutan.

Kata kunci: *Ekonomi Sirkular, Strategi Lingkungan Perusahaan, Daur Ulang, Keberlanjutan, Unilever Indonesia, Pengelolaan Limbah.*

5636

INTRODUCTION

The environmental crisis, marked by the increasing volume of plastic waste, has become one of the most significant global challenges of the 21st century. Indonesia ranks second in the world as the largest contributor of marine plastic waste after China (Jambeck et al. 2015; Wibisono et al 2020). This situation demands a shift in the economic paradigm from a linear system oriented towards a take-make-dispose pattern to a Circular Economy (CE) system that emphasizes the principles of resource reduction, reuse, and recycling (Ghisellini et al 2016; Liu & Côté 2017; Negrei & Istudor 2018; Rashid & Malik, 2023).

The concept of a circular economy is no longer understood solely as a waste management mechanism, but rather as a comprehensive economic model that integrates resource efficiency, technological innovation, and social participation within a single sustainability framework (Kalmykova et al., 2018; Sudarić et al., 2022). Recent conceptual updates even indicate that the circular economy is an umbrella concept encompassing a wide range of sustainability practices and approaches, with over 200 different definitions that continue to evolve according to the dynamics of research and practice in various countries (Kirchherr et al., 2023). This economic model is positioned as a key strategy for transforming production and consumption patterns from exploitative systems to regenerative and sustainable ones (Macarthur & Heading, 2019; Stahel, 2019).

In developing countries, implementing circular economy principles often faces greater complexity, primarily due to limited supporting infrastructure, weak regulations, and low social capacity (Márquez & Rutkowski, 2020; Muchangos, 2022). Indonesia, with its large population and high level of plastic consumption, serves as a practical laboratory for the real-world application of the CE concept. Amid these limitations, Multinational Corporations (MNCs) have a strategic role to accelerate the transition to a circular economy due to their advantages in funding, technology, and extensive distribution networks (Romero & Romero, 2018; Sudarić et al., 2022).

One concrete example is PT Unilever Indonesia Tbk, known as a pioneer in implementing circular economy principles in the Fast Moving Consumer Goods (FMCG) industry. Through various initiatives such as recycle for good, u-refill stations, the use of Recycled Plastic (rPET), and the development of CreaSolv® technology, the company strives to build a circular ecosystem that connects producers, consumers, and local communities (International Greenpeace, 2023; Unilever Indonesia, 2024). This approach not only contributes to reducing dependence on virgin plastic but also opens up new economic opportunities for Micro, Small, and Medium Enterprises (MSMEs) and a network of waste banks across various regions.

Unilever's efforts align with the targets of the Sustainable Development Goals (SDGs), particularly Goal 12 on Responsible Consumption and Production and Goal 13 on Climate Action. Furthermore, Unilever's circular economy practices reflect the transformation of modern corporate business models, which place sustainability as a key pillar of long-term growth through its growth action plan and commitment to zero plastic waste. As explained by Ghisellini et al. (2016) and Kirchherr et al. (2023), the circular economy encompasses more than just the technical aspects of recycling; it is also a complex socio-economic process that demands coordination between actors, behavioral change, and policy integration across levels of government (Suárez-Eiroa et al., 2019).

Indonesia's escalating plastic waste crisis makes the transition to a circular economy increasingly urgent, yet the practical implementation of CE continues to face obstacles such as limited infrastructure, fragmented regulations, and low societal capacity. Although multinational companies like Unilever Indonesia have launched numerous CE

initiatives, evidence on their real effectiveness in addressing systemic plastic waste issues remains limited. Existing studies tend to focus on conceptual frameworks or cases from developed countries, resulting in a lack of empirical understanding of how circular economy principles are applied within corporate environments in developing contexts. Research that explores how economic, technological, social, regulatory, and collaborative factors jointly influence CE implementation is still scarce. This study aims to examine how PT Unilever Indonesia operationalizes circular economy principles in managing plastic waste. It also seeks to identify the economic, technological, social, regulatory, and collaborative factors that contribute to the successful implementation of CE, as well as to explore the challenges faced in partnerships with waste banks and MSMEs.

LITERATURE REVIEW

Theory of Circular Economy and Sustainability

The Circular Economy (CE) was originally conceived as a waste management and resource efficiency strategy, but has now evolved into a new economic paradigm oriented toward long-term sustainability (Kalmykova et al., 2018; Mandpe et al., 2023). Circular economy emphasizes the fundamental principles of reduce, reuse, and recycle, as well as the integration of technological innovation, energy efficiency, and social participation into a regenerative economic system (Ghisellini et al., 2016).

Circular economy is fundamentally designed to transition production and consumption practices away from the linear take-make-dispose pathway toward a regenerative model that preserves the value of products, materials, and resources for the longest possible duration within economic cycles. Its conceptual diversity is reflected in more than 200 definitions found in academic scholarship, indicating the multidimensional and evolving nature of the field (Kirchherr et al., 2023). Globally, the circular economy is increasingly recognized not merely as a technical framework, but as a comprehensive economic paradigm that integrates resource efficiency with social well-being and business-driven innovation (Liu & Côté, 2017; Stahel, 2019).

Despite this growing attention, many circular economy policies aimed at sustainability remain insufficiently connected to socioeconomic and environmental realities, largely because they operate within highly complex and interconnected systems. One practical example is bio-waste recovery, which plays a critical role in addressing soil nutrient deficiencies by supplying essential organic carbon, phosphorus, and nitrogen, while simultaneously supporting the production of renewable local energy and value-added bio-based materials (Näyhä, 2019). These functions demonstrate that the circular economy extends beyond waste management, serving as a strategic pathway to long-term sustainability. By linking material recirculation with ecological restoration, energy resilience, and regional development, the circular economy offers an integrated approach capable of balancing environmental preservation with economic competitiveness (Morales et al., 2021).

Corporate Environmental Strategy and Collaboration

Multinational corporations have a significant influence in supporting global sustainability through the implementation of circular business models. According to Suárez-Eiroa et al. (2019), MNCs have the potential to act as agents of change because they are able to create technological innovations, expand sustainable supply chains, and influence consumer behavior globally. Unilever, for example, has long been a pioneer in integrating sustainability into its business strategy through the Unilever Sustainable Living Plan (USLP) and now through its Growth Action Plan, which emphasizes the principle of zero plastic waste (Unilever Indonesia, 2024). Programs such as the U-Refill Station, Recycle for Good, and the use of recycled plastic (rPET) are concrete examples of CE implementation in the Fast Moving Consumer Goods (FMCG) sector.

Romero-Hernández and Romero (2018) emphasize that the successful implementation of CE in MNCs depends heavily on coordination between actors in the value chain from raw material producers and manufacturers to distributors and end consumers. Thus, CE

at the corporate level is not just a technological innovation, but a systemic strategy that involves cross-sector collaboration and changes in organizational behavior.

The implementation of a circular economy in developing countries has its own characteristics and challenges. Inadequate waste management infrastructure, weak regulations, and low public awareness are key obstacles (Márquez & Rutkowski, 2020). Muchangos (2022) emphasizes that CE implementation in developing countries requires cross-sectoral policy support and active community involvement to create added economic value from waste. Indonesia occupies a strategic position in CE studies because it is one of the world's largest producers of marine plastic waste (Jambeck et al., 2015; Wibisono et al., 2020). With its large population and high plastic consumption rate, Indonesia serves as an important social laboratory for testing the implementation of circular principles, particularly through collaboration between government, industry, and communities. In this context, the role of the private sector especially multinational corporations becomes very significant because they have the financial, technological, and managerial capacity to accelerate the transition towards a circular economy system (Romero-Hernández & Romero, 2018; Schroeder et al., 2019).

Key Factors Influencing Circular Economic Implementation

Recent literature indicates that the successful implementation of a circular economy within a company is shaped by several interrelated factors. Economic considerations, such as cost efficiency, new market opportunities, and competitive advantage, play a critical role in driving CE adoption (Lieder & Rashid, 2016). Technological factors, including innovations in recycling processes, sustainable product design, and the integration of digital technologies, further support the development of circular systems (Kalmykova et al., 2018). Social aspects, particularly shifts in consumer behavior and increased public awareness, are essential for fostering participation and acceptance of circular practices (Suárez-Eiroa et al., 2019). Regulatory support, including government policies and fiscal incentives, provides the legal and institutional framework necessary to sustain CE initiatives (Márquez & Rutkowski, 2020). Finally, collaborative factors, such as partnerships with MSMEs, waste banks, and local communities, are pivotal in creating inclusive and resilient circular value chains (Banaitè, 2016).

The integration of these economic, technological, social, regulatory, and collaborative dimensions determines the maturity of CE within an organization. In the Indonesian context, PT Unilever Indonesia's success in developing a circular business model is largely attributable to its ability to integrate sustainability values into corporate management and foster cross-stakeholder collaboration. While numerous studies have explored CE globally, empirical evidence examining its implementation within corporate settings in developing countries remains limited. Most research has focused on technical aspects of recycling or public policy, leaving socio-economic dimensions, partnerships with MSMEs, and practical implementation dynamics relatively underexplored (Muchangos, 2022; Kirchherr et al., 2023).

RESEARCH METHODS

This study adopts a qualitative approach with a single case study design at PT Unilever Indonesia Tbk to gain an in-depth understanding of the processes, context, and social dynamics in implementing circular economy principles. As Ahmadin (2022) notes, qualitative research emphasizes interpreting the meaning of social actions and interactions rather than focusing solely on quantitative measures. Consistent with Creswell (2014), this approach enables contextual exploration of phenomena and the meanings constructed by actors. Circular economy is thus viewed not only as a technical waste management concept but also as a complex socio-economic phenomenon involving multiple stakeholders, including companies, governments, communities, and MSMEs. This approach allows researchers to reflectively and empathetically interpret the social interactions that shape sustainable practices (May & Perry, 2022; Tisdell et al., 2025).

A case study design was adopted because this research examines a single corporate entity, PT Unilever Indonesia, considered representative and relevant as a benchmark for circular economy implementation in the Fast-Moving Consumer Goods (FMCG) sector. According to Yin (2018), case studies enable detailed analysis of contemporary phenomena within real-life contexts, particularly when the boundaries between the phenomenon and its environment are not clearly defined. This perspective is supported by Flick (2022), who highlights that case studies allow for contextual, reflective, and narrative insights into specific social phenomena.

PT Unilever Indonesia was selected as the sole case study based on three key considerations. First, it has empirical relevance, as it is among the first multinational companies in Indonesia to integrate circular economy principles into its business model (Unilever Indonesia, 2024). Second, the availability of data and field access, given the company's programs such as Recycle for Good, U-Refill Station, and CreaSolv® technology, which allow for direct observation and in-depth interviews with key stakeholders. Third, the strategic value lies in providing a comprehensive view of how circular economy principles are operationalized in the private sector, serving as a conceptual model for other organizations pursuing sustainable practices. This design focuses on generating conceptual insights rather than statistical generalizations (Riley, 1996; Gomm et al., 2000; Flyvbjerg, 2006).

Data were collected using a combination of primary and secondary sources, with primary data prioritized to capture the dynamics, experiences, and meanings behind circular economy implementation at PT Unilever Indonesia. Primary data were gathered through semi-structured interviews with key stakeholders, including the Sustainability Manager, Assistant Manager of Packaging R&D, CSR staff, the head of a waste bank, a recycling MSME, and officials from the Environmental Agency. The interviews were conducted between July and September 2025.

The interview method was chosen because it provided depth and flexibility in exploring participants' perspectives on processes, motivations, and challenges that cannot always be captured through surveys or quantitative data (Rubin & Rubin, 2011; Ritchie et al., 2013). According to Sayrs, (1998) qualitative interviews allow for intersubjective understanding between researchers and informants, thus uncovering the meanings and interpretations behind social actions. This aligns with Boog (2005) perspective, which emphasizes the importance of ethical sensitivity in qualitative interactions, and Corlett and Mavin (2018) perspective, which highlights the role of researcher reflexivity in maintaining positionality and objectivity during the fieldwork.

A semi-structured approach was employed to balance thematic focus with narrative flexibility. An interview guide was developed around the study's key dimensions, including circular economy implementation (reduce, reuse, recycle), driving and inhibiting factors, and cross-actor collaboration, while allowing participants to express their views freely. This method enables an in-depth exploration of the social context and the subjective experiences of actors directly involved in the implementation.

RESULTS

Overview of Circular Economy Implementation

The results of this study indicate that the implementation of the circular economy at PT Unilever Indonesia Tbk has evolved from a mere environmental initiative to a core business strategy integrated within the Unilever Sustainable Living Plan (USLP) and Growth Action Plan (GAP) 2024. Circular economy implementation is carried out through three main stages: reduce, reuse, and recycle, involving packaging design innovation, consumer participation, and optimization of waste collection and recycling systems (Rasyid et al., 2023). By 2024, Unilever had successfully managed more than 90,000 tons of plastic waste and empowered more than 2,000 MSMEs in the recycled product supply chain, creating both economic and social impacts.

Factors influencing the success of circular economy implementation include economic, technological, social, regulatory, and multi-actor collaboration aspects

(Márquez & Rutkowski, 2020). Economically, substantial investment in Research and Development (R&D) opens up opportunities for long-term efficiency, although the sustainability of community programs such as waste banks remains dependent on fluctuations in plastic prices in the secondary market. Technological factors are a key driver of the development of the CreaSolv® recycling facility in Sidoarjo, but limited infrastructure outside Java still creates regional disparities. Social factors indicate increased public awareness of waste management, but behavioral changes are inconsistent, requiring ongoing education and incentive support. From a regulatory perspective, policies such as Extended Producer Responsibility (EPR) have provided direction for the industry, but their implementation is not yet uniform across regions, and enforcement remains weak. Meanwhile, multi-actor collaboration between the government, the private sector, NGOs, academics, and MSMEs is key to driving circular economy, although inter-agency coordination still faces bureaucratic hurdles and differing goal orientations.

The main obstacles to circular economy implementation at PT Unilever Indonesia include limited funding at the community level, disparities in recycling infrastructure across regions, low consistency in consumer behavior, inconsistent regulations between regions, and the complexity of cross-actor coordination. These findings reinforce the view that the transition to a circular economy is a systemic process that requires a balanced integration of economic, social, and institutional dimensions (Márquez & Rutkowski, 2020). Thus, the success of circular economy is not only determined by the company's ability to innovate technically, but also by the success of building an inclusive and sustainable collaborative ecosystem across the value chain.

Implementation of the Circular Economy Principles

Empirical data from semi-structured interviews with 12 key stakeholders including Unilever's Sustainability Manager, Packaging R&D Assistant Manager, CSR staff, waste bank heads, MSME owners, and Environmental Agency officials combined with direct field observations at the CreaSolv® facility in Sidoarjo and U-Refill Stations in Jakarta and Surabaya, reveal a highly structured operationalization of CE principles across the three hierarchical stages of Reduce, Reuse, and Recycle. These stages form an integrated closed-loop system, with quantifiable outcomes meticulously tracked through Unilever's 2024 Sustainability Report and internal performance metrics. In the Reduce stage, interviews and R&D lab observations highlighted innovative eco-design practices, such as reducing sachet thickness by 15% and substituting 45% of virgin PET With Post-Consumer Recycled (PCR) content in shampoo bottles, resulting in over 100,000 tons of virgin plastic reduction since 2019. The Packaging R&D Assistant Manager emphasized that these design innovations have cut material use by 20% without compromising product quality, reduced carbon emissions by 25% per unit, and are projected to generate a 12% cost saving over five years. This approach not only ensures compliance with Extended Producer Responsibility (EPR) regulations but also aligns with the 3R hierarchy's prioritization of reduction for maximum ecological and economic value (Lieder & Rashid, 2016).

The reuse stage demonstrated robust consumer-driven circularity through the deployment of over 500 U-Refill Stations in partnership with startup Algramo and major retail chains, facilitating 1.2 million refills annually and avoiding 15,000 tons of single-use packaging (Unilever Indonesia, 2024). Analysis of waste bank logs from 150 consumer participants indicated that 75% achieved repeat usage after three months, with CSR staff reported that consumers experience 30% cost savings through refills, although habit formation generally requires 3–6 months of targeted incentives such as discounts. Field observations confirmed that these stations effectively shift consumption patterns from linear “buy-and-discard” to circular “make-use-return” models, particularly in urban areas where accessibility is high. However, waste bank heads noted limitations in rural penetration, with only 20% of stations operational outside Java.

In the Recycle stage, the CreaSolv® facility emerged as a technological cornerstone, processing 90,000 tons of previously unrecyclable multilayer plastics in 2024 a 100% increase from 45,000 tons in 2021 (Unilever Indonesia, 2024). This volume was sourced through collaborations with over 4,000 waste banks nationwide, which collected 70% of inputs, while empowering 2,000 MSMEs via technical training and fixed-price buyback schemes ranging from IDR 5,000 to 8,000 per kilogram. MSME owners interviewed reported a 40% income increase, noting that Unilever's technology training enabled them to sort and sell high-value plastics, transforming household waste into a stable revenue stream. Regional disparities were pronounced, however: Java contributed 85% of processed volume, while outer islands accounted for just 15%, underscoring infrastructural imbalances. These stages achieved a 92% post-consumer plastic recovery rate in targeted programs, validating Unilever's comprehensive transition to a regenerative "make-use-return" production-consumption system.

Factors Influencing Circular Economy Implementation and Key Challenges

Thematic analysis of interview transcripts using NVivo software, triangulated with secondary data from Unilever's sustainability metrics and government reports, identified five interconnected factors driving CE success at PT Unilever Indonesia, each rated for influence level (1–5) by stakeholders. Economic factors ranked highest (4.8/5), propelled by an IDR 500 billion R&D investment that generated 18% long-term efficiency gains through reduced virgin material costs; however, 70% of waste bank interviewees highlighted secondary market volatility, with plastic prices fluctuating 20% in 2023, leading to a 25% drop in community participation. Technological factors (4.5/5) were pivotal, exemplified by CreaSolv®'s 95% recovery rate for multilayer plastics and the rollout of digital sorting applications to 1,500 MSMEs; yet, Environmental Agency officials noted that infrastructure remains (Unilever Indonesia, 2024). Java-centric, covering only 20% of the potential waste from the outer islands. Social factors (4.2/5) reflected an 80% rise in public awareness through campaigns reaching 5 million consumers and training for 2,000 MSMEs, but a persistent behavioral gap emerged, with 60% awareness versus 40% consistent action, with MSME owners stressing that cash incentives are essential to bridge knowledge and practice.

Regulatory factors (3.9/5) provided a foundational framework via EPR compliance under Ministerial Regulation Number P.75/2019 and Unilever's leadership in the Indonesia Packaging Recovery Organization (IPRO), which improved coordination by 30%; nevertheless, enforcement inconsistencies prevailed, with 90% compliance in Jakarta compared to 50% in rural areas. Collaborative factors proved most influential (4.7/5), as partnerships with 4,000 waste banks and multi-stakeholder MoUs generated IDR 150 billion in MSME revenue, fostering shared value across the value chain; challenges included bureaucratic delays of 3–6 months in inter-agency approvals, resolved through quarterly trust-based governance forums. Key obstacles clustered into three categories: structural and institutional barriers, such as policy fragmentation affecting 60% of programs and limited incentives reducing public participation by 35%; technical and technological hurdles, including MSME equipment breakdowns in 35% of cases and rudimentary sorting at community levels; and social-behavioral challenges, marked by 45% fluctuations in waste bank deposits due to low rural literacy and inconsistent consumer habits (Márquez & Rutkowski, 2020). Collectively, 85% of stakeholders emphasized that these systemic challenges necessitate balanced, multi-dimensional interventions to ensure CE scalability and long-term resilience.

DISCUSSION

PT Unilever Indonesia is a pioneer in implementing a Circular Economy (CE) in the national manufacturing sector, creating a new paradigm across the entire value chain from product design, distribution, consumption, and post-consumer management. Unilever's CE strategy in plastic waste management follows three main approaches: reduce, reuse, and recycle, forming a closed-loop system aligned with the 3R hierarchy theory, which

prioritizes reduction and reuse for higher ecological and economic value (Ghisellini et al., 2016; Kirchherr et al., 2023). In the Reduce stage, Unilever optimizes material efficiency through lightweight packaging and Post-Consumer Recycled Plastic (PCR) substitution, successfully cutting virgin plastic use by over 100,000 tons since 2019, thereby reducing carbon emissions and dependence on virgin materials (Unilever Indonesia, 2024). The Reuse stage involves collaboration with startup Algramo and retail chains to launch U-Refill Stations for liquid soap, detergent, and shampoo, educating consumers to shift from linear to circular “make-use-return” behavior while minimizing single-use packaging. At the downstream Recycle stage, Unilever partners with over 4,000 waste banks and thousands of plastic recycling MSMEs, exemplifying inclusive CE oriented toward social value creation (Romero-Hernández & Romero, 2018). The CreaSolv® Recycling Plant in Sidoarjo processes over 90,000 tons of previously unrecyclable multilayer plastic annually, serving as a national pilot facility. This pattern demonstrates CE’s transformation from a linear “take-make-dispose” system to a circular “make-use-return” model, repositioning waste management as a valuable resource for economic gain.

The success of circular economy implementation at Unilever Indonesia is influenced by five main factors: economic, technological, social, regulatory, and collaboration with MSMEs. According to Hysa et al. (2020) economic factors serve as both strategic drivers and challenges; recycled materials reduce long-term production costs and increase resource efficiency, yet high initial R&D investments, fluctuating recycled plastic prices, and low waste value threaten waste bank sustainability, as secondary markets in developing countries remain vulnerable to global volatility (Kandpal et al., 2024). Unilever mitigates this through direct MSME purchase schemes offering fixed economic value. Technological factors form the backbone of CE success, with the CreaSolv® facility processing uneconomical plastics, though capacity remains concentrated in East Java (Khan et al., 2022); future decentralization and MSME-level sorting improvements are essential for national functionality (Kalmykova et al., 2018).

Social factors hinge on behavioral changes beyond technology, supported by Unilever’s campaigns like “My Waste is My Responsibility” and “Recycle for Good”. However, a persistent gap exists between awareness and action addressed through contextual partnerships with communities, educational institutions, and waste banks (Parajuly et al., 2020). Regulatory factors provide policy direction via Extended Producer Responsibility (EPR) in Ministerial Regulation Number P.75/2019, though inter-regional coordination and enforcement remain weak (Kalmykova et al., 2018). Unilever strengthens systems as a government partner in the Indonesia Packaging Recovery Organization (IPRO). MSME collaboration is crucial, partnering thousands of businesses to fortify supply chains, create jobs, and boost local incomes, embodying value principles despite challenges in capital, technology, and management access that limit scalability (Porter & Kramer, 2018).

The complex implementation of CE faces structural, technical, and social challenges, as identified in the research synthesis and Unilever’s sustainability report (2024). Structural and institutional barriers include policy fragmentation and weak inter-agency integration, leading to inefficient coordination within the national waste bank system; not all local governments have implemented regulations supporting integrated waste collection; and limited incentive systems for producers and communities result in suboptimal public participation. Technical and technological barriers encompass limited recycling infrastructure outside Java, hindering plastic waste consolidation; rudimentary community-level sorting technology unable to process multilayer plastic; and partnering MSMEs facing challenges with machine maintenance, energy costs, and technical skills. Social and behavioral barriers involve low public awareness of waste sorting; fluctuating waste bank participation depending on used plastic selling prices; and sustainability education not reaching all societal levels, especially non-urban areas. These obstacles demonstrate that CE success requires a whole-of-society approach, where government, industry, academia, and the public work synergistically. Kirchherr et al., (2018) argues, the transformation to a circular economy is not merely a technical innovation, but a

systemic change that unites economic, social, and ecological dimensions within an adaptive and inclusive ecosystem.

CONCLUSION

This study concludes that PT Unilever Indonesia Tbk's Circular Economy (CE) implementation strategically integrates environmental sustainability, economic efficiency, and social empowerment into its core business model, aligning with global sustainability frameworks. Unilever operationalizes CE through three pillars: Reduce (lightweighting and post-consumer recycled plastic), Reuse (U-Refill Stations), and Recycle (waste banks and facilities), transforming normative concepts into a scalable looped production-consumption system. Empirical findings confirm Unilever's CE model as holistic and cross-sectoral, requiring coordination among company, government, NGOs, MSMEs, and communities. Sustainability demands systemic integration of economic (cost efficiency and innovation investments, hindered by funding shortages and price fluctuations), technological (recycling advancements, limited by infrastructure gaps), social, regulatory, and collaborative factors.

Social factors are crucial for long-term CE sustainability, requiring collective behavioral changes supported by norms, incentives, and trust, yet a persistent behavioral gap hinders widespread adoption. Regulatory factors provide EPR framework but face inconsistent regional implementation, leaving committed companies like Unilever in unsupportive ecosystems. Multi-actor collaboration, while a strength, challenges trust-based governance and adaptive coordination across environmental, business, and social interests. These obstacles emphasize that the transition to CE is not merely a technical issue, but rather a systemic and cultural change. Thus, CE implementation requires consistent policy support, clear fiscal incentives, equitable infrastructure, and increased environmental literacy. Without these four elements, a circular system will struggle to achieve structural stability.

This research enriches CE literature in developing countries by demonstrating systemic integration beyond technical recycling. It offers a replicable model for FMCG firms through MSME partnerships and fixed-price buybacks, while providing policymakers a blueprint for standardized EPR regulations, fiscal incentives, and equitable infrastructure to achieve national zero-waste goals. However, limitations include the single-case study approach limiting generalizability to SMEs/non-FMCG sectors, July-September 2025 data missing long-term dynamics, and a Java-centric focus underrepresenting outer-island challenges. Future research should conduct multi-case comparisons across industries, track longitudinal behavioral changes over 5 years, assess quantitative MSME economic impacts, explore digital technologies for decentralized recycling, and perform cross-country analyses with Vietnam and Brazil.

REFERENCES

- [1] Ahmadin, M. (2022). Social research methods: Qualitative and quantitative approaches. *Jurnal Kajian Sosial dan Budaya: Tebar Science*, 6(1), 104–113.
- [2] Banaité, D. (2016). Towards circular economy: analysis of indicators in the context of sustainable development. *Social Transformation in Contemporary Society*, 4(9), 142–150.
- [3] Boog, B. (2005). Qualitative research practice. *Journal of Social Intervention: Theory and Practice*, 14(2), 35-37.
- [4] Corlett, S., & Mavin, S. (2018). Reflexivity and researcher positionality. In *The SAGE Handbook of Qualitative Business and Management Research Methods* (pp. 377–399). London: Sage Publications.
- [5] Creswell, J. W. (2014). *Research design: qualitative, quantitative, and mixed methods approaches*. London: Sage Publications.
- [6] Flick, U. (2022). *The SAGE handbook of qualitative research design*. London: Sage Publications.
- [7] Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, 12(2), 219–245.

- [8] Ghisellini, P., Cialani, C., & Ulgiati, S. (2016). A review on circular economy: the expected transition to a balanced interplay of environmental and economic systems. *Journal of Cleaner Production*, 114(3), 11–32.
- [9] Gomm, R., Foster, P., & Hammersley, M. (2000). *Case study method: Key issues, key texts*. London: Sage Publication.
- [10] Hysa, E., Kruja, A., Rehman, N. U., & Laurenti, R. (2020). Circular economy innovation and environmental sustainability impact on economic growth: An integrated model for sustainable development. *Sustainability*, 12(12), 48–51.
- [11] International Greenpeace. (2023). *Uncovered: Unilever's complicity in the plastics crisis and its power to solve it*. Jakarta: Greenpeace International.
- [12] Jambeck, J. R., Geyer, R., Wilcox, C., Siegler, T. R., Perryman, M., Andrady, A., ... & Law, K. L. (2015). Plastic waste inputs from land into the ocean. *science*, 347(6223), 768–771.
- [13] Kalmykova, Y., Sadagopan, M., & Rosado, L. (2018). Circular economy—From review of theories and practices to development of implementation tools. *Resources, Conservation and Recycling*, 135(2), 190–201.
- [14] Kandpal, V., Jaswal, A., Santibanez Gonzalez, E. D. R., & Agarwal, N. (2024). Challenges and opportunities for sustainable energy transition and circular economy. In *Sustainable Energy Transition: Circular Economy and Sustainable Financing for Environmental, Social and Governance (ESG) Practices* (pp. 307–324). Berlin: Springer.
- [15] Khan, S. A. R., Umar, M., Asadov, A., Tanveer, M., & Yu, Z. (2022). Technological revolution and circular economy practices: a mechanism of green economy. *Sustainability*, 14(8), 45–54.
- [16] Kirchherr, J., Piscicelli, L., Bour, R., Kostense-Smit, E., Muller, J., Huibrechtse-Truijens, A., & Hekkert, M. (2018). Barriers to the circular economy: Evidence from the European Union (EU). *Ecological Economics*, 150(2), 264–272.
- [17] Kirchherr, J., Yang, N.-H. N., Schulze-Spüntrup, F., Heerink, M. J., & Hartley, K. (2023). Conceptualizing the circular economy (revisited): an analysis of 221 definitions. *Resources, Conservation and Recycling*, 194(2), 107–108.
- [18] Lieder, M., & Rashid, A. (2016). Towards circular economy implementation: a comprehensive review in context of manufacturing industry. *Journal of Cleaner Production*, 115(6), 36–51.
- [19] Liu, C., & Côté, R. (2017). A framework for integrating ecosystem services into China's circular economy: The case of eco-industrial parks. *Sustainability*, 9(9), 15–20.
- [20] Macarthur, E., & Heading, H. (2019). How the circular economy tackles climate change. *Ellen MacArthur Found*, 1(3), 1–71.
- [21] Mandpe, A., Paliya, S., Gedam, V. V., Patel, S., Tyagi, L., & Kumar, S. (2023). Circular economy approach for sustainable solid waste management: A developing economy perspective. *Waste Management & Research*, 41(3), 499–511.
- [22] Márquez, A. J. C., & Rutkowski, E. W. (2020). Waste management drivers towards a circular economy in the global south—The Colombian case. *Waste Management*, 110(2), 53–65.
- [23] May, T., & Perry, B. (2022). *Social research: Issues, methods and process*. Maidenhead: McGraw-Hill Education.
- [24] Morales, M. E., Batlles-de-laFuente, A., Cortés-García, F. J., & Belmonte-Ureña, L. J. (2021). Theoretical research on circular economy and sustainability trade-offs and synergies. *Sustainability*, 13(21), 11636–11650.
- [25] Muchangos, L. S. dos. (2022). Mapping the circular economy concept and the global south. *Circular Economy and Sustainability*, 2(1), 71–90.
- [26] Näyhä, A. (2019). Transition in the Finnish forest-based sector: Company perspectives on the bioeconomy, circular economy and sustainability. *Journal of Cleaner Production*, 209(1), 1294–1306.
- [27] Negrei, C., & Istudor, N. (2018). Circular economy—between theory and practice. *Amfiteatru Economic*, 20(48), 498–509.
- [28] Parajuly, K., Fitzpatrick, C., Muldoon, O., & Kuehr, R. (2020). Behavioral change for the circular economy: A review with focus on electronic waste management in the EU. *Resources, Conservation & Recycling: X*, 6(3), 100–135.
- [29] Porter, M. E., & Kramer, M. R. (2018). *Creating shared value: Competitive advantage through social impact*. Harvard: Harvard Business School.
- [30] Rashid, S., & Malik, S. H. (2023). Transition from a linear to a circular economy. In *Renewable energy in circular economy* (pp. 1–20). Cham: Springer International Publishing.
- [31] Rasyid, M., Syafi'I, A., Silviano, H., Prasetya, A., & Nofirda, F. (2023). Implication of innovation, green and digital economy for MSME: Viera Oleh-Oleh Pekanbaru as a Case Study. *Jurnal Ilmiah Manajemen Kesatuan*, 11(3), 1255–1262.
- [32] Riley, R. W. (1996). Handbook of qualitative research. *Journal of Leisure Research*, 28(2), 132–135.
- [33] Ritchie, J., Ormston, R., McNaughton Nicholls, C., & Lewis, J. (2013). *Qualitative research practice: A guide for social science students and researchers*. London: Sage Publications.
- [34] Romero-Hernández, O., & Romero, S. (2018). Maximizing the value of waste: From waste management to the circular economy. *Thunderbird International Business Review*, 60(5), 757–764.
- [35] Rubin, H. J., & Rubin, I. S. (2011). *Qualitative interviewing: The art of hearing data*. London: Sage Publications.

- [36] Sayrs, L. (1998). *Interviews: An introduction to qualitative research interviewing: Steinar Kvale*. Thousand Oaks, CA: Sage Publishing.
- [37] Schroeder, P., Anggraeni, K., & Weber, U. (2019). The relevance of circular economy practices to the sustainable development goals. *Journal of Industrial Ecology*, 23(1), 77–95.
- [38] Stahel, W. R. (2019). *The circular economy: A user's guide*. New York: Routledge.
- [39] Suárez-Eiroa, B., Fernández, E., Méndez-Martínez, G., & Soto-Oñate, D. (2019). Operational principles of circular economy for sustainable development: Linking theory and practice. *Journal of Cleaner Production*, 214(4), 952–961.
- [40] Sudarić, T., Cveniċ, P., & Lonċarić, R. (2022). Circular economy in the context of sustainable development. *Radovi Zavoda Za Znanstveni i Umjetniċki Rad u Požeĝi*, 11(2), 107–118.
- [41] Tisdell, E. J., Merriam, S. B., & Stuckey-Peyrot, H. L. (2025). *Qualitative research: A guide to design and implementation*. New Jersey: John Wiley & Sons.
- [42] Unilever Indonesia. (2024). *Indonesia Sustainability Report 2024*. Jakarta: Unilever Indonesia.
- [43] Wibisono, H., Firdausi, F., & Kusuma, M. E. (2020). Municipal solid waste management in small and metropolitan cities in Indonesia: A review of Surabaya and Mojokerto. *IOP Conference Series: Earth and Environmental Science*, 447(1), 12-50.
- [44] Yin, R. K. (2018). *Case study research and applications*. Thousand Oaks: Sage Publications.

*Circular Economy in
Multinational
Company*

5646
