
CAN REUSABLE PACKAGING BE THE FUTURE OF FMCG SUSTAINABILITY? A CASE STUDY ON REGULATORY COMPLIANCE AND CIRCULAR ECONOMY IN INDONESIA

By

Bintang Ekananda¹, Anif Farida², Faridz Abdul Chalid Macap³

^{1,2,3}Universitas Muhammadiyah Sorong

E-mail: ¹bintangekananda@gmail.com

Article History:

Received: 11-12-2024

Revised: 22-12-2024

Accepted: 14-01-2025

Keywords:

Reusable Packaging Systems,
Plastic Waste Reduction,
Circular Economy,
Sustainable Consumption,
BPOM Compliance

Abstract: *Single-use packaging significantly contributes to environmental degradation, with plastic pollution becoming a critical issue. While recycling has limitations, reusable packaging offers a viable alternative, particularly for Fast-Moving Consumer Goods (FMCG). This study examines the implementation of a reusable packaging system for chocolate malt powder, developed collaboratively by an FMCG brand and Alner, a reuse operator in Indonesia. Using a qualitative case study approach, it explores the design, regulatory compliance, and operational framework. The results show that reusable systems, compliant with BPOM Regulation No. 23 of 2023 and adhering to Good Manufacturing Practices (GMP), are scalable and legally viable. This research highlights the distinction between reusable packaging and refill models, emphasizing reusable systems as a sustainable, practical solution for FMCG brands to adopt circular economy principles and reduce plastic waste*

INTRODUCTION

The global reliance on single-use packaging, particularly plastics, has led to significant environmental degradation. Plastic pollution has become a pressing issue, with an estimated 11 million metric tons of plastic waste entering the oceans annually (Borrelle et al., 2020). While recycling has long been promoted as a solution, its effectiveness is limited by low recovery rates and the challenges of material contamination (Geyer et al., 2017). This calls for more innovative approaches that move beyond recycling, particularly in sectors like Fast-Moving Consumer Goods (FMCG), which are significant contributors to packaging waste. Reuse systems offer a promising alternative, allowing FMCG brands to minimize their environmental footprint by adopting circular economy principles.

This paper explores the practical implementation of reusable packaging systems by FMCG brands, using the case study of a food product, **chocolate malt powder**, developed in collaboration with Alner, a reuse operator. This product complies with Indonesia's BPOM regulations, demonstrating that legal barriers to reusable packaging systems can be effectively addressed. By showcasing this example, the study emphasizes the critical role of FMCG brands in scaling reusable packaging systems to drive sustainable consumption

patterns. The findings underline the importance of transitioning to reuse models, not only as an environmental imperative but also as a practical and legally viable strategy for brands globally.

METHOD

This research adopts a qualitative case study approach to examine the implementation of a reusable packaging system for an existing food product by an FMCG brand in collaboration with Alner, a reuse operator. Data collection involved multiple methods:

- 1. Observation and Documentation**
The author observed the end-to-end process, including packaging design, regulatory compliance, logistical setup, and market launch. Key activities were documented to capture the real-world application of the reuse system.
- 2. Interviews and Informal Discussions**
Insights were gathered through informal discussions with representatives from Alner and the FMCG brand. These conversations provided context on decision-making processes, challenges encountered, and strategies for overcoming barriers, particularly regulatory compliance.
- 3. Document Analysis**
Internal documents, such as regulatory submissions, operational guidelines, and promotional materials, were reviewed to ensure the accuracy and completeness of the information presented.

This case study methodology aligns with Yin's (2014) framework for qualitative research, which emphasizes in-depth exploration of contemporary phenomena within real-life contexts. The observational and document-based approach follows best practices outlined by Bowen (2009) for systematic document analysis in qualitative research. By combining these methods, the study presents a comprehensive overview of the steps required to implement a reusable packaging system in compliance with regulatory requirements, offering practical insights for broader application across the FMCG sector.

RESULT

The collaboration between Alner and the FMCG brand exemplifies a replicable model for launching reusable packaging systems for processed food products while complying with existing regulations. The process began with a scoping phase to define the parameters of the pilot project, focusing on replacing single-use packaging for a popular product—chocolate malt powder. After aligning on project goals, the partnership moved to the design phase, with Alner conducting market research to ensure the packaging met key criteria: durability, reusability, cost-effectiveness, product protection, and customer convenience. Notably, the new packaging maintained the same dosage format as the original sachets to enhance consumer acceptance.

The design was developed by a third-party design studio and produced by a packaging converter. In parallel, the FMCG brand complied with regulatory requirements by notifying BPOM (Indonesia's National Agency of Drug and Food Control), Indonesia's National Agency of Drug and Food Control, about the **Variasi Minor Pangan Olahan** (minor variation in

processed food). The submission included details about the new packaging material (polypropylene), size, and label design, as mandated by **BPOM Regulation No. 23 of 2023 on Processed Food Registration**. Once BPOM approved the variation and issued the certificate, the brand proceeded with manufacturing and filling the reusable packaging at its GMP-compliant facility.

Distinction Between Reusable Packaging and Refill Models

A key aspect of this model is the difference between in-facility filling for reusable packaging and external refill stations. Reusable packaging involves filling the product within the brand owner's or their partner's facility under a controlled environment that adheres to **Good Manufacturing Practices (GMP)**. GMP is a set of regulations and standards ensuring that products are consistently produced and controlled according to quality standards, covering aspects such as cleanliness, hygiene, and safety during production. This ensures the product maintains its quality, safety, and shelf life, as required by BPOM.

In contrast, refill models typically involve consumers bringing their containers to external refill stations, often located in retail outlets or community spaces. These refill stations are outside the controlled environment of a manufacturing facility and are not yet regulated for processed food by BPOM. Without standardized guidelines, concerns about hygiene, contamination, and product consistency arise in refill systems. This makes reusable packaging systems more viable under existing laws, as they align seamlessly with GMP and food safety regulations. Brands can confidently adopt reusable models without legal or operational hurdles, while refill models may require new regulatory frameworks for full-scale implementation.

Alner's Role and Operational Considerations

After production, Alner distributed the finished products and managed the reverse logistics for the reusable containers. Alner's responsibilities included delivering products to customers, collecting used containers, and cleaning them for subsequent reuse. Currently, there is no standardized regulation for cleaning reusable packaging, so hygiene levels are agreed upon between the brand and Alner. Importantly, this arrangement aligns with existing laws, as the reusable packaging is treated as equivalent to new packaging sourced for production. This model demonstrates a scalable, legally compliant approach for FMCG brands to transition from single-use to reusable systems while ensuring product quality and operational efficiency.

DISCUSSION

The collaboration between Alner and the FMCG brand illustrates the practical feasibility of transitioning from single-use packaging to reusable systems in the processed food sector, a shift that aligns with global efforts to address plastic pollution. The adoption of reusable packaging directly supports circular economy principles by extending the lifecycle of packaging materials, reducing waste generation, and lowering the demand for virgin plastic production (Ellen MacArthur Foundation, 2019). Compared to recycling, which is often hindered by low recovery rates and material contamination (Geyer et al., 2017), reusable systems provide a more efficient and impactful solution by preventing waste at the source. This study demonstrates that existing regulatory frameworks, such as BPOM Regulation No. 23 of 2023, accommodate reusable packaging when the filling process

adheres to Good Manufacturing Practices (GMP), ensuring food safety and product integrity.

The distinction between reusable packaging and refill systems further underscores the potential for FMCG brands to adopt reuse models. Reusable packaging systems, which involve controlled in-facility filling, mitigate hygiene and contamination risks that are more prevalent in refill stations located outside manufacturing environments. This operational advantage is particularly relevant given the absence of standardized regulations for refill stations in Indonesia. Studies have shown that consumer acceptance of reusable systems is strongly linked to convenience, product safety, and trust in hygiene standards (van den Oever et al., 2020). By leveraging existing GMP-compliant facilities and collaborating with reuse operators like Alner, brands can confidently implement reuse systems without significant regulatory or infrastructural changes. This approach sets a precedent for broader adoption across the FMCG sector, highlighting the need for more targeted policies to support reuse and reduce reliance on single-use packaging.

CONCLUSION

This study highlights the feasibility and practical benefits of transitioning from single-use to reusable packaging systems for processed food products, as demonstrated by the collaboration between Alner and an FMCG brand. By leveraging existing regulatory frameworks such as BPOM Regulation No. 23 of 2023 and adhering to Good Manufacturing Practices (GMP), reusable packaging systems can be implemented effectively without legal barriers. This model not only addresses critical environmental challenges like plastic pollution but also provides a scalable, consumer-friendly solution that aligns with circular economy principles. The findings underscore the importance of partnerships between brands and reuse operators to overcome operational and logistical hurdles, setting a replicable example for other FMCG companies aiming to adopt sustainable practices. Moving forward, the development of standardized regulations for cleaning and managing reusable packaging will further support the widespread adoption of reuse systems, solidifying their role in driving sustainable consumption and production.

ACKNOWLEDGEMENTS

We extend our gratitude to the Alner team and the Environmental Engineering Department of Universitas Muhammadiyah Sorong for their supports.

REFERENCES

- [1] Borrelle, S. B., Ringma, J., Lavender Law, K., Monnahan, C. C., Lebreton, L., McGivern, A., ... & Jambeck, J. (2020). "Predicted growth in plastic waste exceeds efforts to mitigate plastic pollution." *Science*, 369(6510), 1515-1518. <https://doi.org/10.1126/science.aba3656>
- [2] Geyer, R., Jambeck, J. R., & Law, K. L. (2017). "Production, use, and fate of all plastics ever made." *Science Advances*, 3(7), e1700782. <https://doi.org/10.1126/sciadv.1700782>
- [3] Ellen MacArthur Foundation. (2019). "Reuse - Rethinking Packaging." *Ellen MacArthur Foundation*. <https://ellenmacarthurfoundation.org/reuse>
- [4] Bowen, G. A. (2009). "Document analysis as a qualitative research method." *Qualitative Research Journal*, 9(2), 27-40. <https://doi.org/10.3316/QRJ0902027>

- [5] Yin, R. K. (2014). *Case Study Research: Design and Methods* (5th ed.). SAGE Publications.
- [6] van den Oever, M., Molenveld, K., van der Zee, M., & Bos, H. (2020). "Biobased and biodegradable plastics: Facts and figures." *Wageningen Food & Biobased Research*. <https://doi.org/10.18174/504691>

THIS PAGE IS INTENTIONALLY LEFT BLANK