Business Problem Statement

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Business Questions

- What factors or characteristics distinguish customers with annual sales exceeding the determined volume threshold from those below this threshold?
- How can Swire Coca-Cola use historical sales data, or other Customer Characteristics to predict which ARTM customers have the potential to grow beyond the volume threshold annually?
- How can these insights be integrated into the routing strategy to support long-term growth while maintaining logistical efficiency?
- What levers can be employed to accelerate volume and share growth at growth-ready, high-potential customers?

Business Problem

SCCU tries to optimize logistics by transitioning customers selling below a specific annual volume to an Alternate Route to Market (ARTM).

There was a 400 gallons volume threshold used to distinguish between the direct delivery route and ARTM. However, misclassification with this threshold can lead to missed opportunities for revenue expansion and weakened customer relationships.

SCCU is looking for a more cost-efficient strategy for optimizing logistics which is driving operational efficiencies and more revenues.

By leveraging advanced analytics, SCCU can ensure that high-growth accounts remain on direct delivery routes, sustaining their full revenue potential while optimizing logistical efficiency by switching low-growth ones to ARTM. The analysis will focus on two key customer segments.

- **Local Market Partners that buy fountains only:** Customers who buy only fountain drinks and no CO2, cans, or bottles.
- **All Customers:** This group includes all customers, regardless of whether they are local market partners or not, and includes those purchasing CO2, cans, bottles, or fountain drinks.

Solution Benefits

By implementing an advanced predictive model, SCCU can classify customers more effectively, ensuring the right accounts receive direct delivery or ARTM routing.

Key Benefits of the Solution:

- **Cost Efficiency –** Optimized logistics by accurately identifying low-volume customers for ARTM, reducing unnecessary delivery costs, allowing better resource allocation and operational efficiency.
- **Revenue Growth** – Ensures high-potential customers remain on direct delivery routes, maximizing sales and long-term relationships.
- **Strategic Customer Engagement** – Improved segmentation enables targeted growth strategies to accelerate volume and market share for growth-ready customers.

Success Metrics

Business-relevant measurable/actionable numbers that we can change to make the problem solvable.

- Reducing the total distribution cost per customer and ARTM transitions
- Increase in ARTM adoption rate among low-volume customers
- Reduce churn rate of high-value customers
- Increase in customer engagement and order frequency
- Purchase volume increases by approximately 15-25% or more
- Delivery costs decrease by at least 25%

Analytics Approach

The approaches should cover both supervised and unsupervised based on the problem given, since we need to find the strategy for classifying which customers must be included in ARTM or not, and which volume threshold would be optimal to apply for.

- **Unsupervised approaches:** Clustering, Associated Ruled Mining
- **Supervised approaches:** Classification & Regression, Ensemble Models

Scope

Scope:

- Analysis includes measuring KPI's such as customer life-time value and revenue growth estimations based on 2 years of historical data
- Analysis includes identifying key factor of determining high potential / low potential customers such as type of channel, customer profile, etc
- Analysis includes business strategies and recommendations for cost reductions and logistics optimization.
- Analysis covers two groups mainly:
    - Local Market Partners who buy only fountain drinks
    - All Customers

Out of Scope:

- Analysis doesn't cover causal related work, which includes if implementing "x" will cause a decrease in operational costs, etc. via experimental design.
    - A/B test with treatment and control, etc.
    - Utilizing causal inference techniques
- Analysis will not be conducted on local market customers who do not buy fountain drinks.

Details

- Team member: Richard Lim, Varun Selvam, Nikita Muddapati and Meenakshi Hariharan
- Analytical Processes Timeline
    - Business Problem Statement – due date 2/2/2025
    - EDA – due date 2/16/2025
    - Modeling – due date 3/9/2025
    - Presentation- due date 4/16/2025
    - GitHub Portfolio – due date 4/20/2025