



Retail Merchant

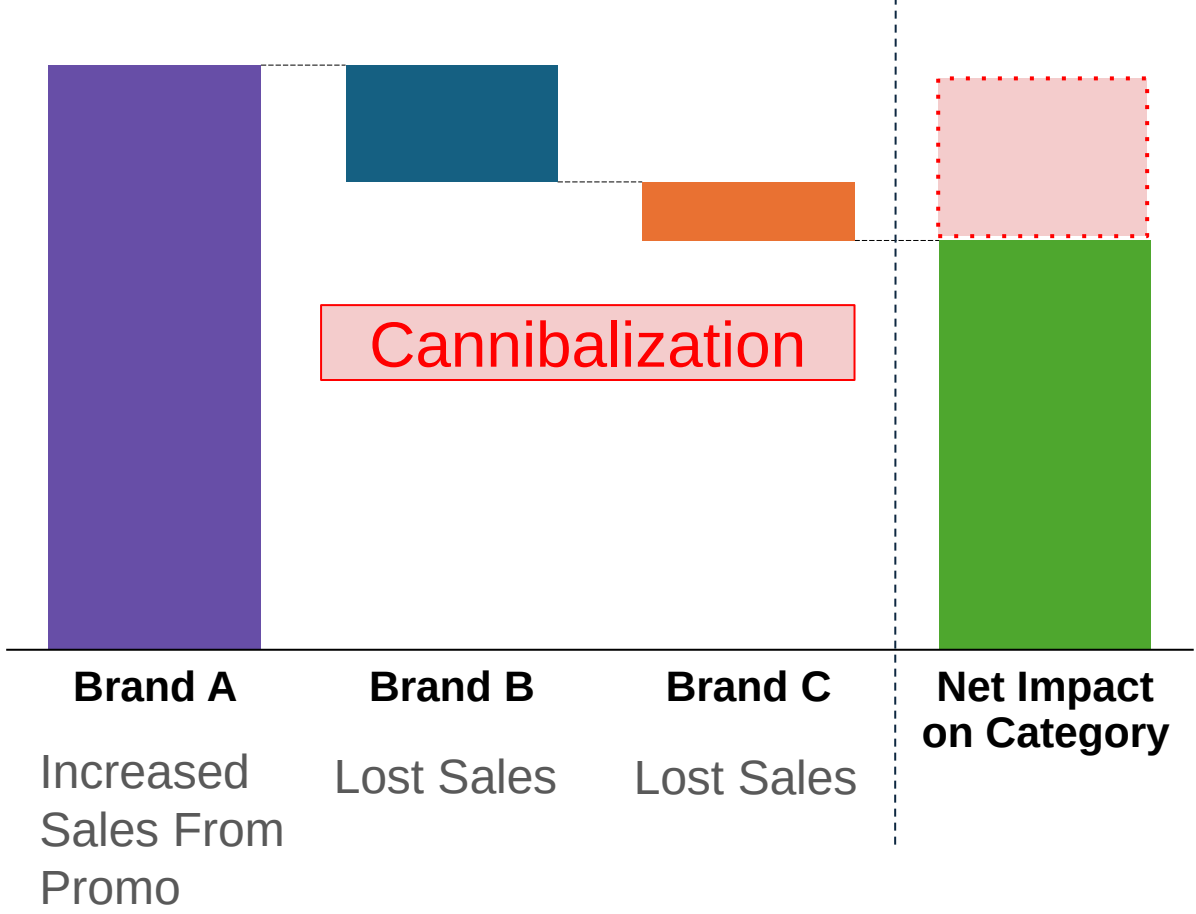
Cognira’s unique software tells me how much sales of Brand A increase when I promote it, but

- What happens to the sales of the unpromoted Brand B?
- What is the net impact on my entire category?



Our Goal

To provide a more holistic view of the impact of a promotion at the category level by quantifying the cannibalization loss in sales for unpromoted brands.



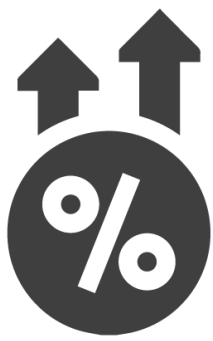
Why It Matters



Revenue Management
by ensuring cannibalization does not cancel promotional gains



Inventory Mgmt. Improvement
due to better forecasts of individual products

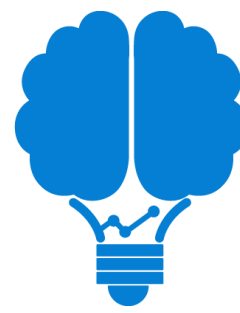


Profit Margin Preservation
by ensuring high-margin brands are not cannibalized

Impact



Holistic View For Merchants
Allowing for better decision making and promotional planning to maximize outcomes

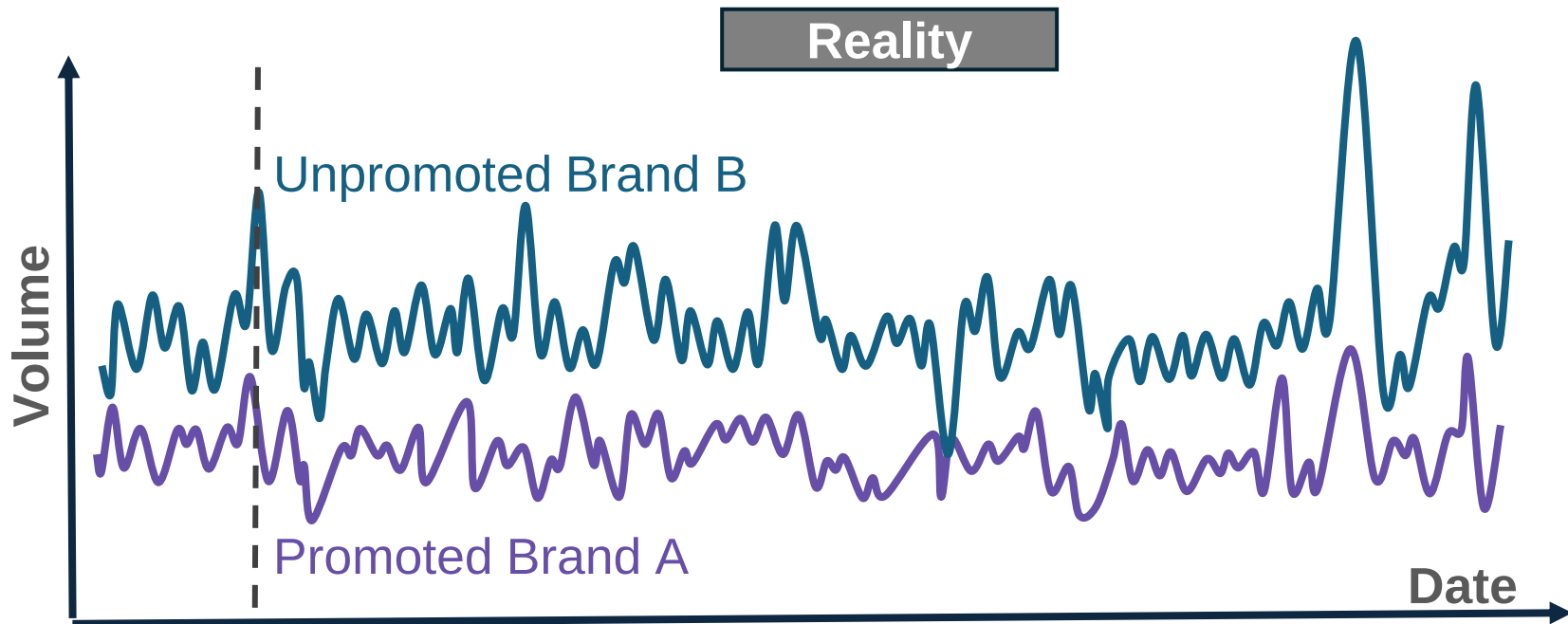
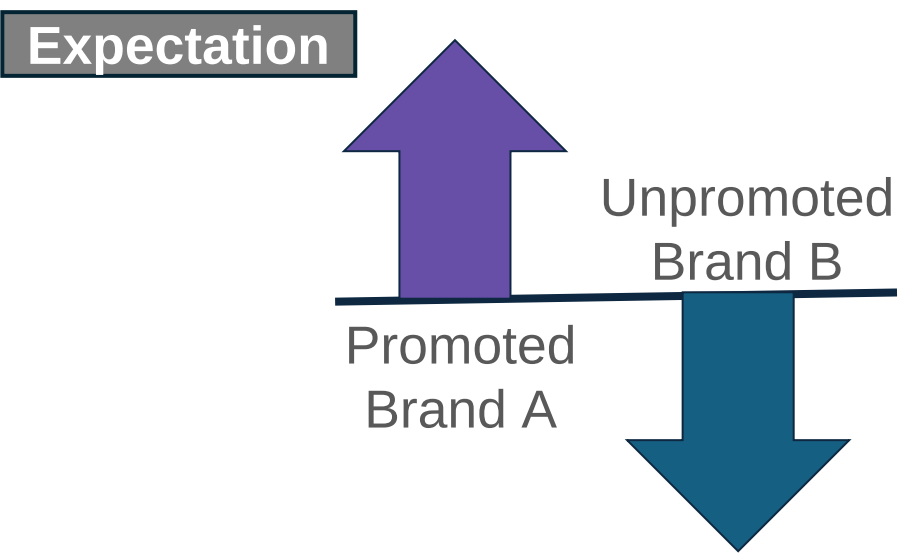


Improved Understanding
Increased knowledge around the phenomenon especially brand correlations for Cognira and its customers



High-Margin Brand Preservation
Retailers can ensure that promotions do not cannibalize any high margin brands

The Challenge



Many traditional approaches to cannibalization analyses focus on sales volume. However, sales volume is highly volatile and seasonal with promotions often coinciding with events or holidays. Isolating cannibalization effects from this volatility is extremely difficult, as both promoted and unpromoted brands often see increases in absolute volume during these periods.

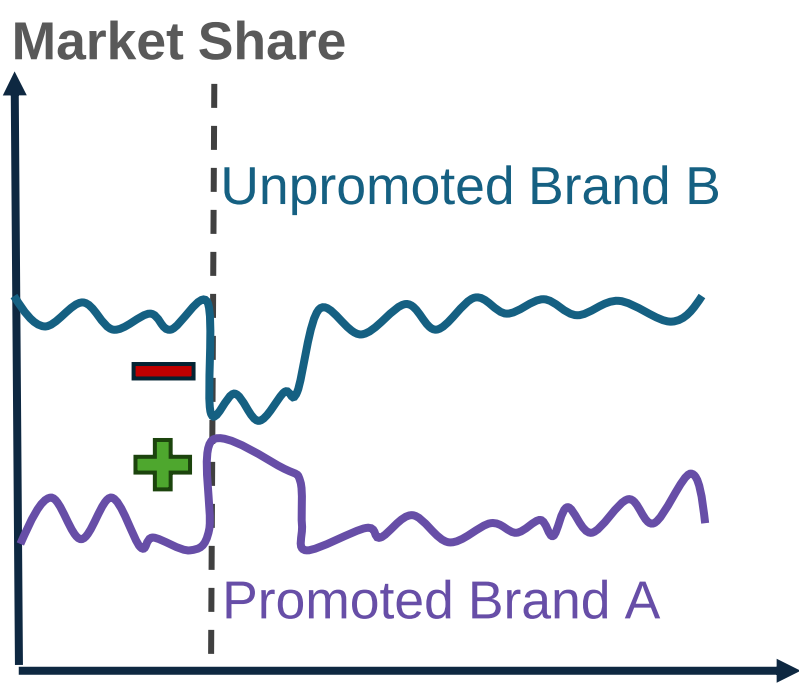
59% of 183 major brands saw an improvement in forecasts compared to the case when cannibalization was not considered

22% Median improvement in forecast amongst these brands

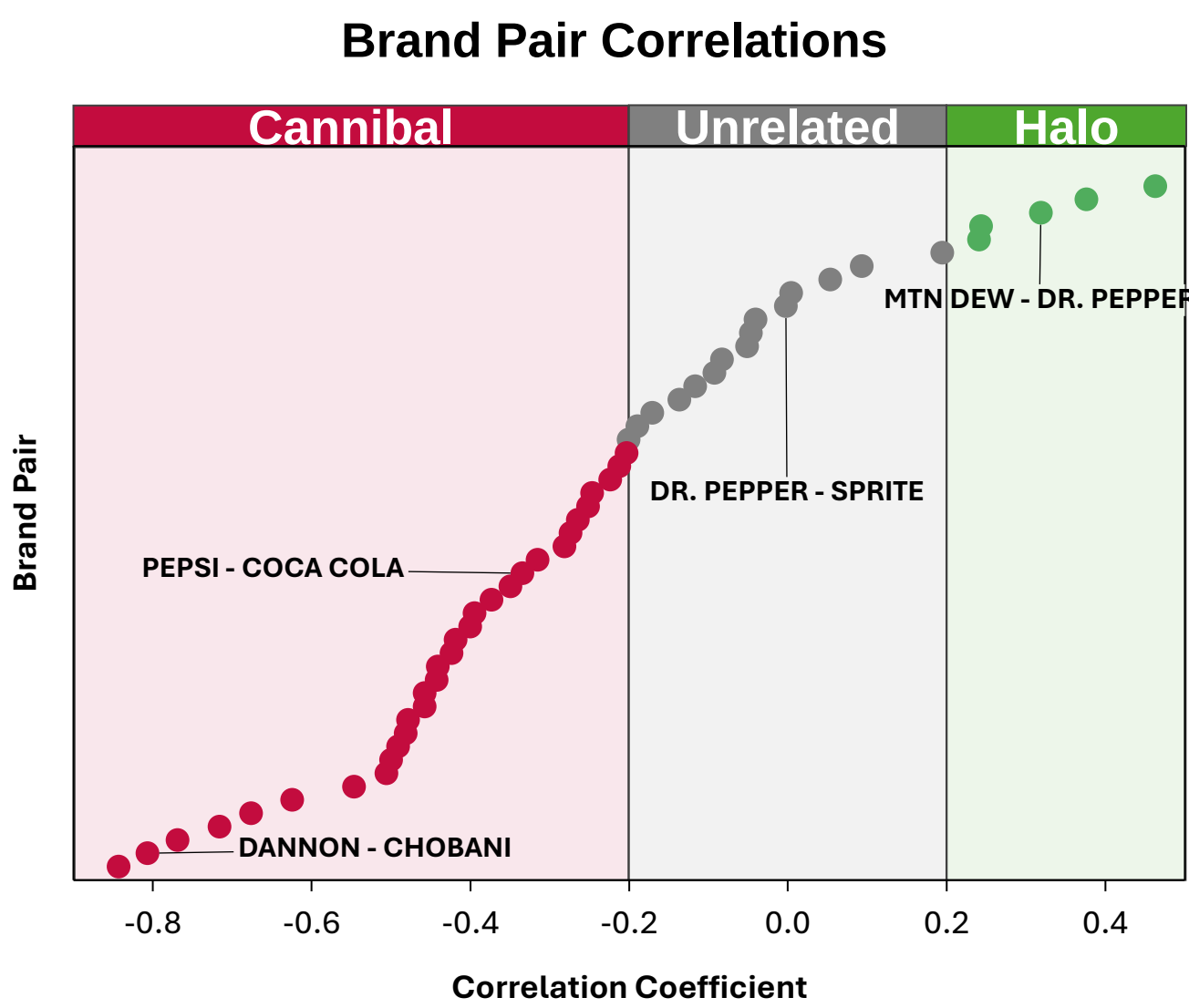
Key Finding

We identified brand market share (brand volume as a percent of category volume) as the primary, seasonality-independent metric for observing cannibalization.

By measuring correlations between changes in market share, we classified brand pairs as cannibal (negative correlation) or halo (positive correlation).

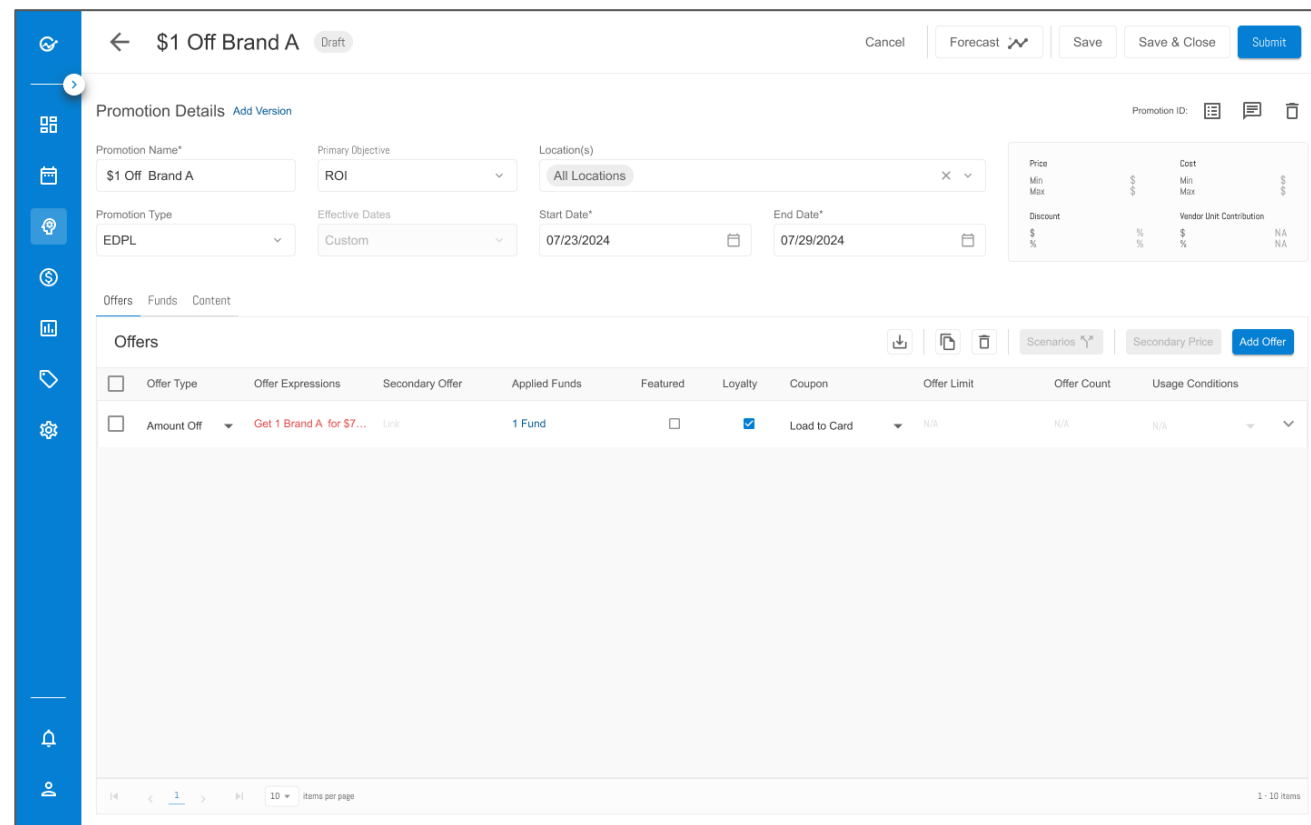


To our knowledge, this is a novel lens through which to model cannibalization

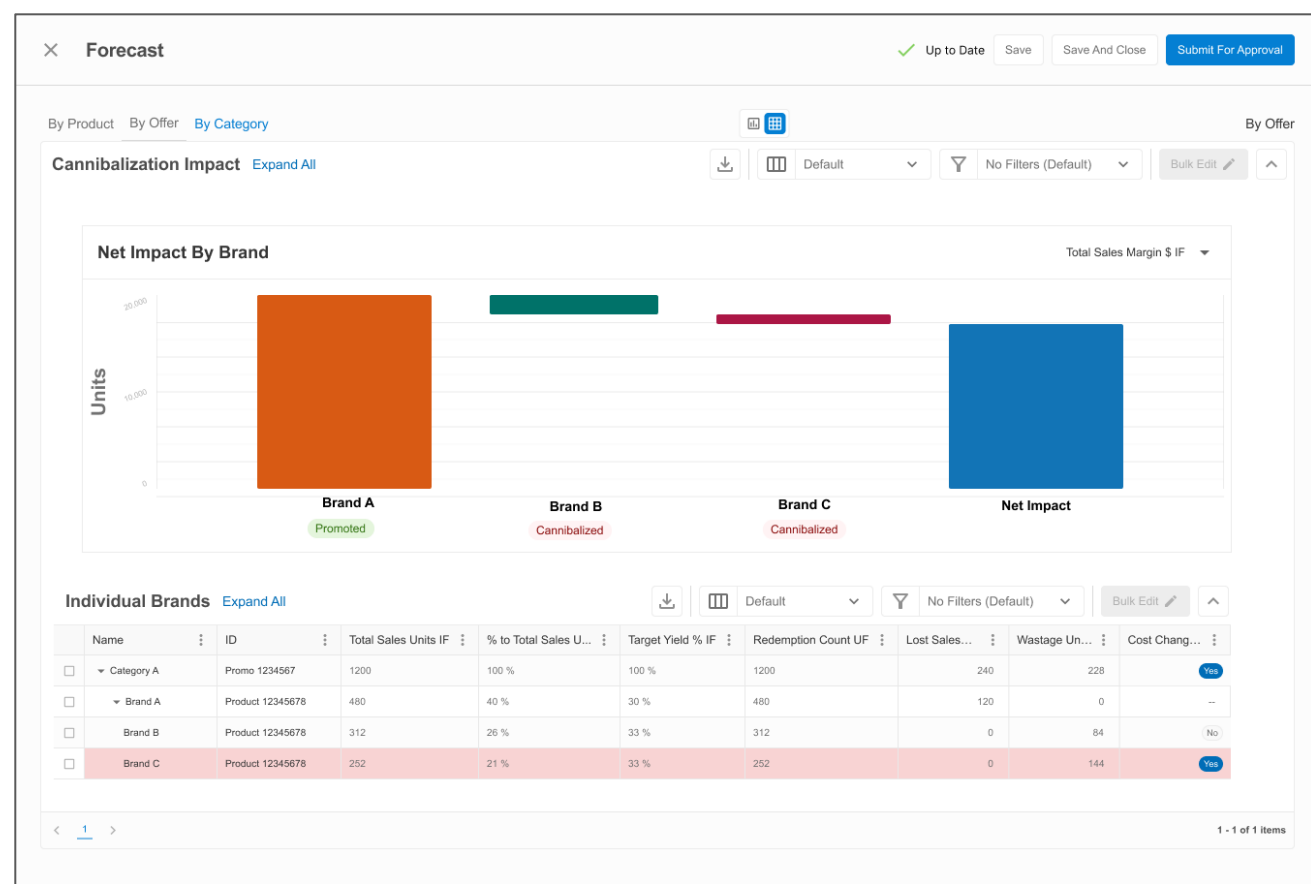


Implementation

Users create and define a promotion



Provided with a new view of both the cannibalization effect and the overall impact of the promotion



Solution Pipeline



Input
Any combination of promotion

Promotional features across all brands that retailers currently enter into the application



Predictor 1
Predicts total category sales

Boosted trees model with promotional & seasonal features for each category & pack-size combination



Predictor 2
Predicts market shares

Boosted trees model with promotional feature to predict a vector with market shares for each brand

We can calculate the units of any brand in the category as:

$$Units_i = Category\ Units * Mkt\ Shr_i$$

By setting promotional inputs to 0, we can predict baseline volume for each brand:

$$Baseline\ Units_i = Category\ Units_0 * Mkt\ Shr_i$$

The cannibalization effect is the change in units compared to pre-promotion levels for unpromoted brands:

$$Cannibalization_i = Baseline\ Units_i - Units_i$$

