08 SEPTEMBER 2025

ML Forecasting Integrated Circuit Value

Progress so far...

Only Monthly data

Learned the monthly data is more suitable for forecasting.

Forecast method

Linear trend & Linear Trend with Seasonality.
For 6 months IC exports value in the future.

Data

Have added 2024/1 - 2024/12 data with 100,000 rows

Method

Forecast method

Linear trend :

$dt \approx a + bt$

a = intercept

t = trend

b = month

Moving Average (usually 12 month) → Central Moving Average

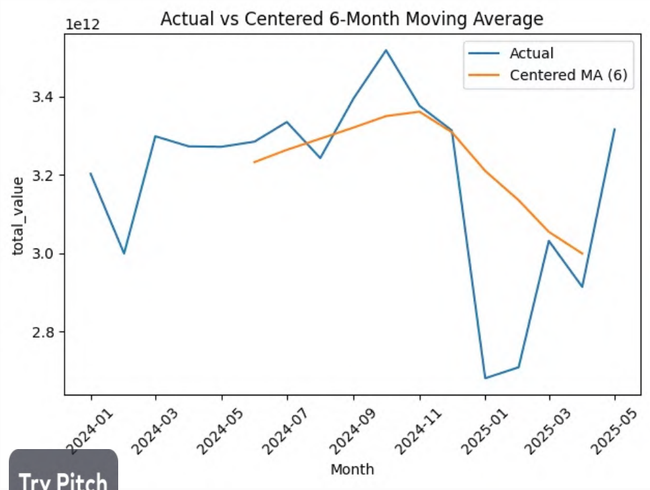
Linear Trend with Seasonality :

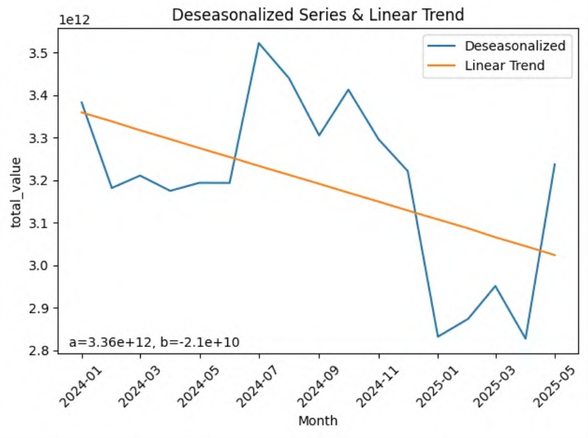
$(a + b \cdot (T+h)) \times SI\_month(T+h)$

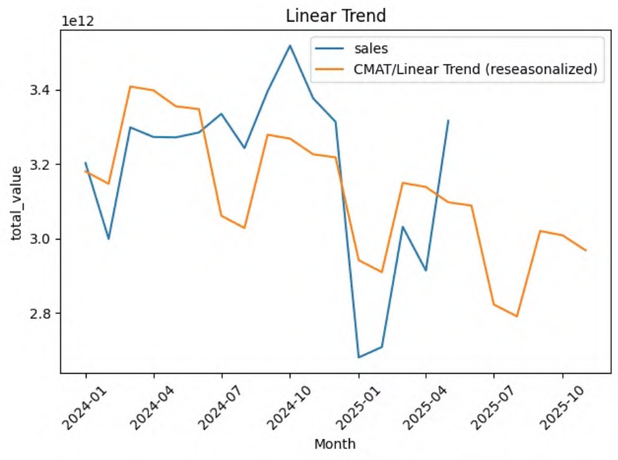
h = horizon

→ Seasonal Factors (CMA / value) → Seasonal Indices (average seasonal factors

Result so far







The result for linear trend is unsimilar with the actual data. which can be conclude the learning is not enough (not enough data to study)

Next Progress

Take more data 5 years back

The lack of data has impacted the forecasting result inaccurate

Consider another method of Forecasting (situational)

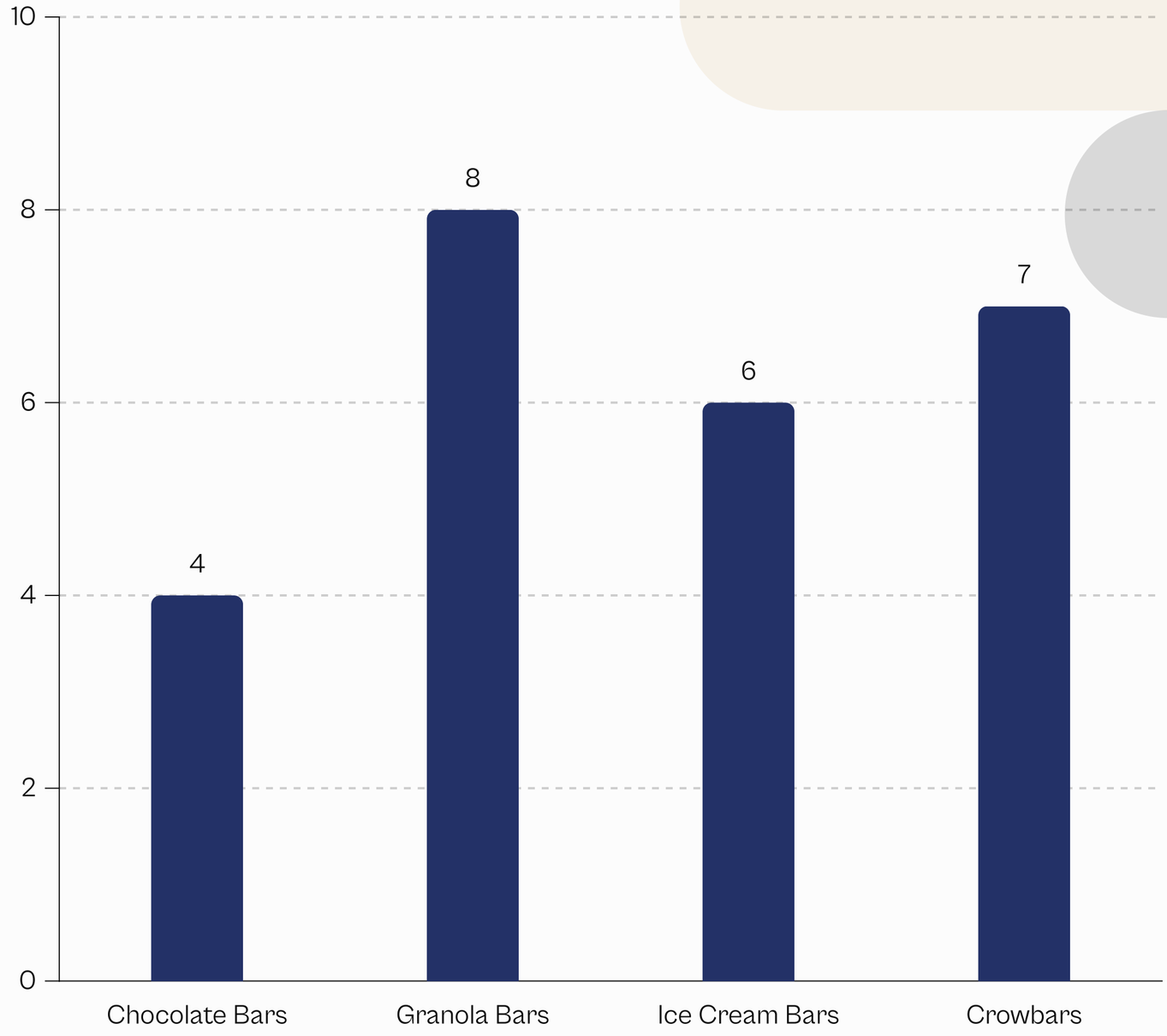
If the result for these two method has not satisfied, probably trying to compare with other methods

Use other parameter to forecast

Will definitely use other parameter such as the average of export value, net weight sum & average in the final presentation

Link Github Final Project Data Science

https://github.com/rfih/Dibimbing---DSDA/tree/fb93d1915b1cf5e6ba99b20e79b1ccda9d4fd2a5/Final%20Project%20Data%20Science



Pitch

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