How to Improve Forecast Accuracy to Drive Measurable Trading Partner Results

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Agenda

• What are we covering today
• The Challenges
• The Current State of Play
• Some Sample Data
• Measuring Accuracy
• Movement to More Sophisticated
• Leads To
• Case Studies
• The Take Aways
• Q&A
What we are going to cover today..
The Challenges…

- **Assortment**
  - Large SKU counts
  - Often large number of NPDs
  - Multiple units of measure, cans, bottles, kegs, litres….

- **Data**
  - Huge volume of data
  - Cleansing and interpretation
  - Deciding on what is relevant

- **Promotions**
  - Special packs and seasonal SKUs
  - Regional variations e.g. England football team branded products for stores in Scotland
  - Cannibalisation / Halo affects
The Challenges...

- **Channels**
  - Direct to customer DC
  - Direct to customer store
  - Indirect
  - Forecasting levels in product hierarchies – determined by finance, executed on by supply chain and planned for by sales

- **Forecasting methodologies**
  - Statistical models versus gut feel and experience versus hybrid approach

- **Market Intelligence**
  - Competitor activity
  - Marketing activity
  - Macro economic trends
Estimate accuracy varies between companies
- 10% very accurate
- 35% reasonably accurate
- 40% somewhat accurate
- 15% not very accurate

Only 30-40% of companies use POS data

Forecasting methodologies range in sophistication
- Informal Spreadsheets
- Tools using averages
- Time series analysis
- Regressions
- Game theory technologies
Some Sample Data
Sample Data - EDLP Account C
Sample Data - High / Low Account D

Variations in Off Weeks

Multi Week Features

Some Price Variation
Sample Data - High / Low Account B

High Frequency
Sample Data - High / Low Account B - POS

Little Post Effect
Sample Data - High / Low Account B
Sales Shipments Only

Weeks Affected
There are many measures to forecast accuracy. One of the most common is Mean Absolute Percentage Error (MAPE) which technically is a measurement of error not accuracy; the lower the MAPE the more accurate the prediction. It is a measure of error in a fitted time series value in statistics, specifically trending and is defined by the formula

\[
MAPE = \frac{1}{n} \sum_{t=1}^{n} \left| \frac{A_t - F_t}{A_t} \right|
\]
Measuring Accuracy

MAPE 345

MAPE 115
Movement to More Sophisticated
Leads to...

- A 50% improvement in control of Trade Spend $ due to visibility to all key stakeholders in the business. No ability for KAMs to hide money for next year
- Total Trade Spend reduced by 3% of sales over the past 4 years
- Reduced promotional forecast error by 16% which helped to reduce inventory by over $3 million (despite growing sales over the period).
- Forecast Accuracy has improved from 82% to 95%.
Case Study #1

- Appreciating context and external factors......
The Take Aways...

- Understand first of all how much you need to improve
  - Accuracy measurements, which ones, what level?
- Define a plan for how to improve
  - Set a target incremental improvement against each step of the plan
  - Educate the organisation. Forecast accuracy is not just a Demand Planning problem
- Pilot new ideas in realistic environments
  - Don’t use statistical modelling for the slow, lump demand or the new products with no history
  - Embrace pareto. 80% of the improvement will come from 20% of your forecast skus
- Acknowledge that forecasting is not all science and adapt your business to tune in to market signals
Questions...
Thank You!

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