
Product Promotion Effectiveness: Root Causes Of Stock-Outs

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Agenda

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Introduction



- Stock-outs are common in retail environment
- Stock-outs lead to lost sales and hence lost revenue for both the retailer and the manufacturer
- In the past, the CPG manufacturer has lost 5% of its total revenue with one retailer due to stock-outs during promotions
- Frequent stock-outs lead to changes in purchasing patterns of consumers
(Thomas, Gruen, and Bharadwaj, 2002)

Promotions: Process

Planning

- Prepare for intended promotion,
- Import promotion forecast data,
- Develop preliminary forecast, and
- Confirm promotion forecast

Execution

- Manage order logistics,
- Manage shipping logistics,
- Track promotions (replenishment waves, and compliance, mid level POS)

Evaluation

- Import post-promotion inventory, POS and shipment data,
- Measure promotion performance (scorecard, root cause analysis), and
- Develop performance improvement plan (team and customer feedback)

Result

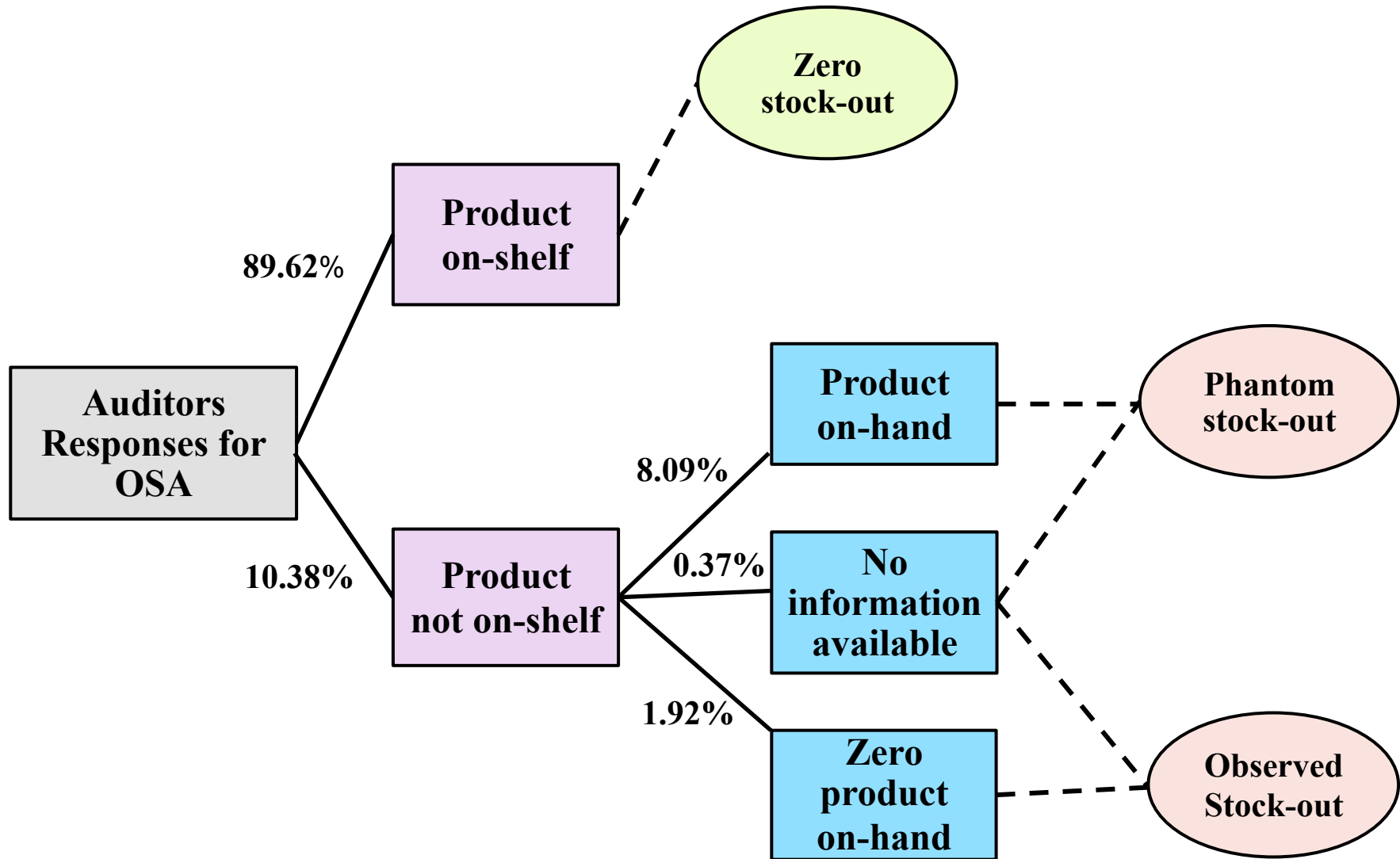
POS data summary

Parameter	Units
Number of SKU's	36
Number of Store-SKU-Days	27,583,958
Total Store-SKU-Days OOS	889,534
Percent Store-SKU-Days OOS	3.22%
Total Store-SKU combination	103,165
OOS per Store-SKU	8.62
Total Units Sold	20,694,845
Total Revenue	245,838,893

Promotion sales summary

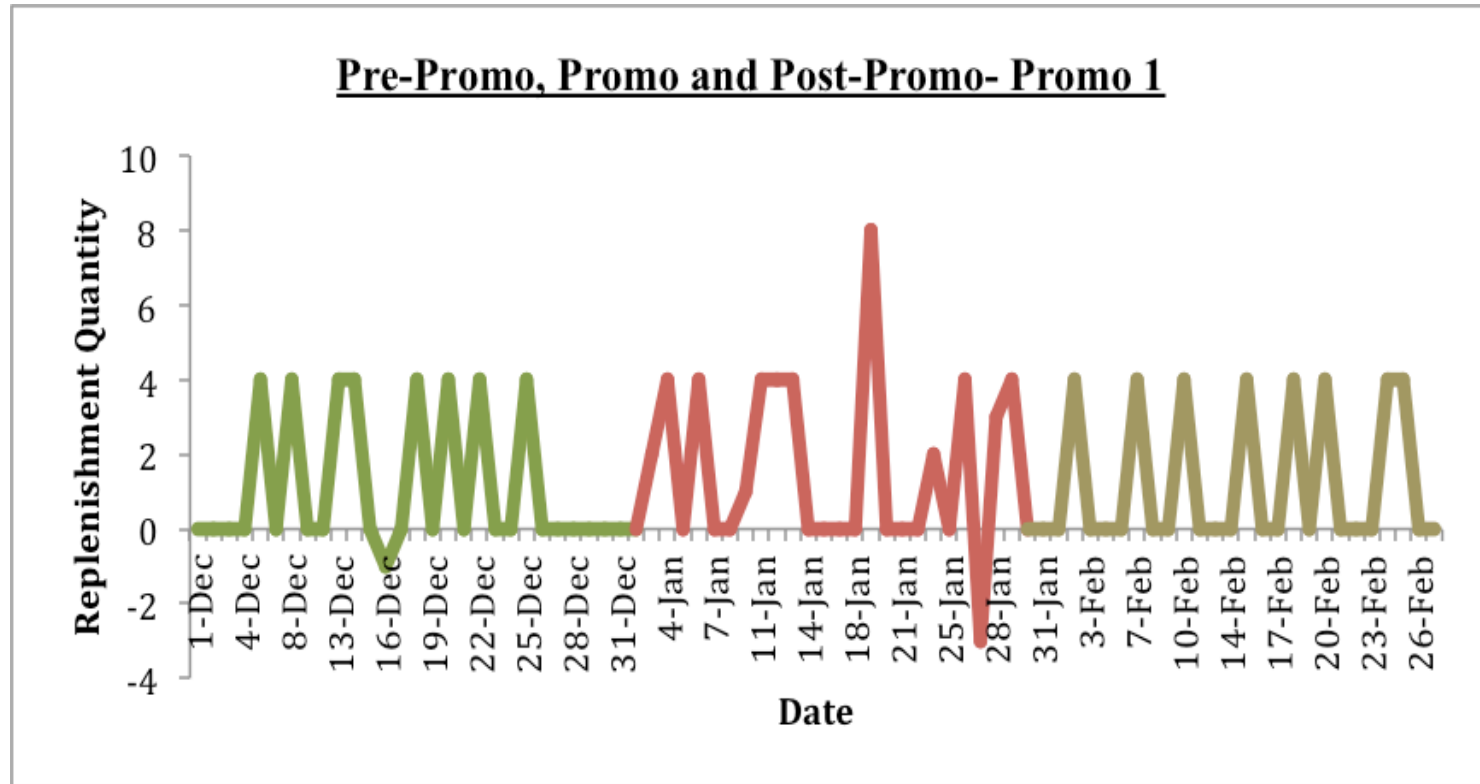
	Promotion 1	Promotion 2
Number of SKU's	11	3
Number of Store-SKU-Days	1,110,673	115,393
Total Store-SKU-Days OOS	24347	8822
Percent Store-SKU-Days OOS	2.199%	7.64%
Total Store-SKU Combination	40,968	12,860
OOS per Store-SKU	0.594	0.686
Total Units Sold	1,309,247	94,553
Total Revenue	12,994,990	1,128,775
Revenue/unit sold	9.95	11.93

Audit data summary



POS data exploration

1. Replenishment



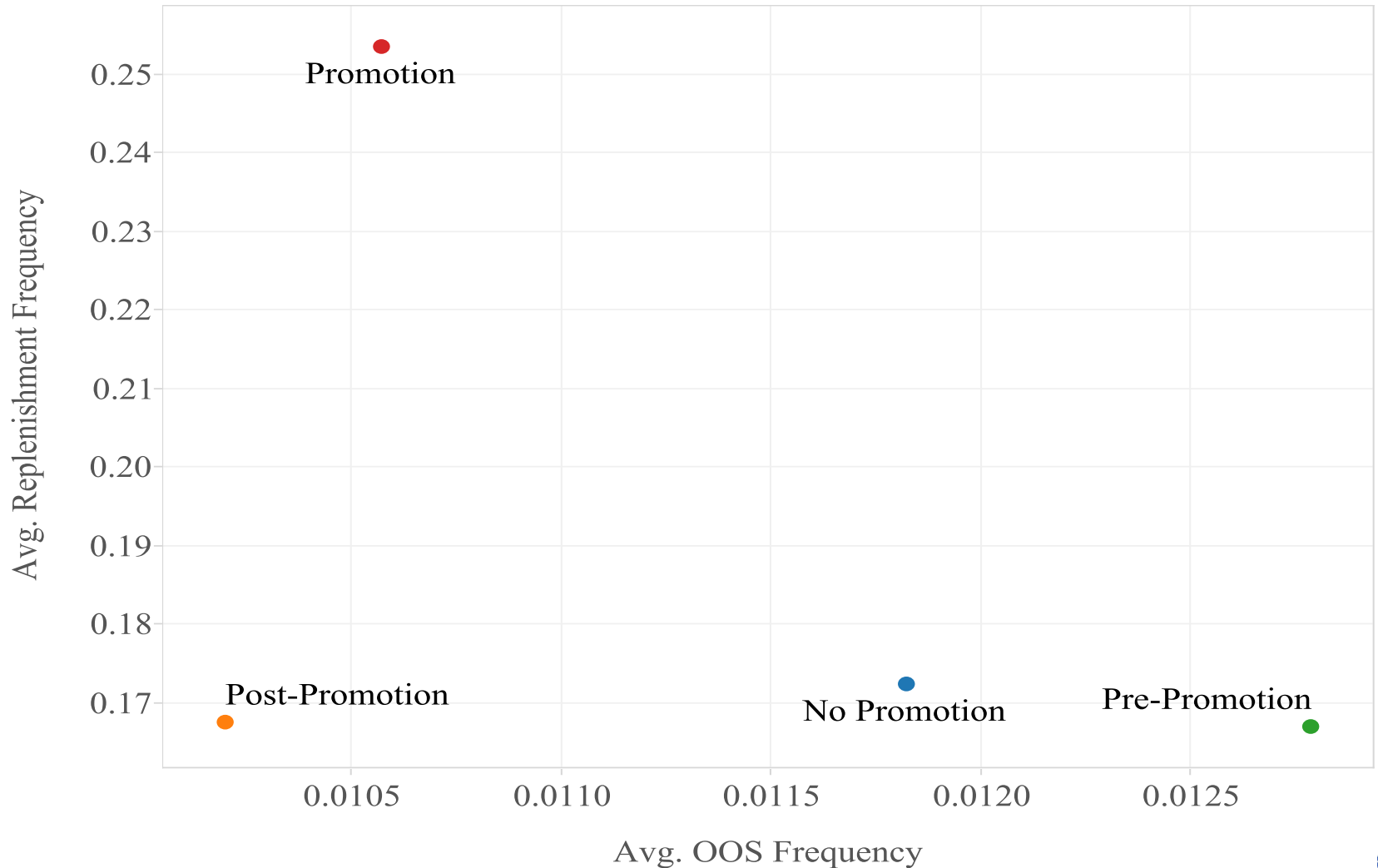
Pre-Promotion

Promotion

Post-Promotion

Comparison of replenishment frequency in different periods

Sheet 11



2. Shelf-space allocation

No correlation observed; very low R value while running regression

3. SKU complexity

No strong correlation with OOS, very low R-value

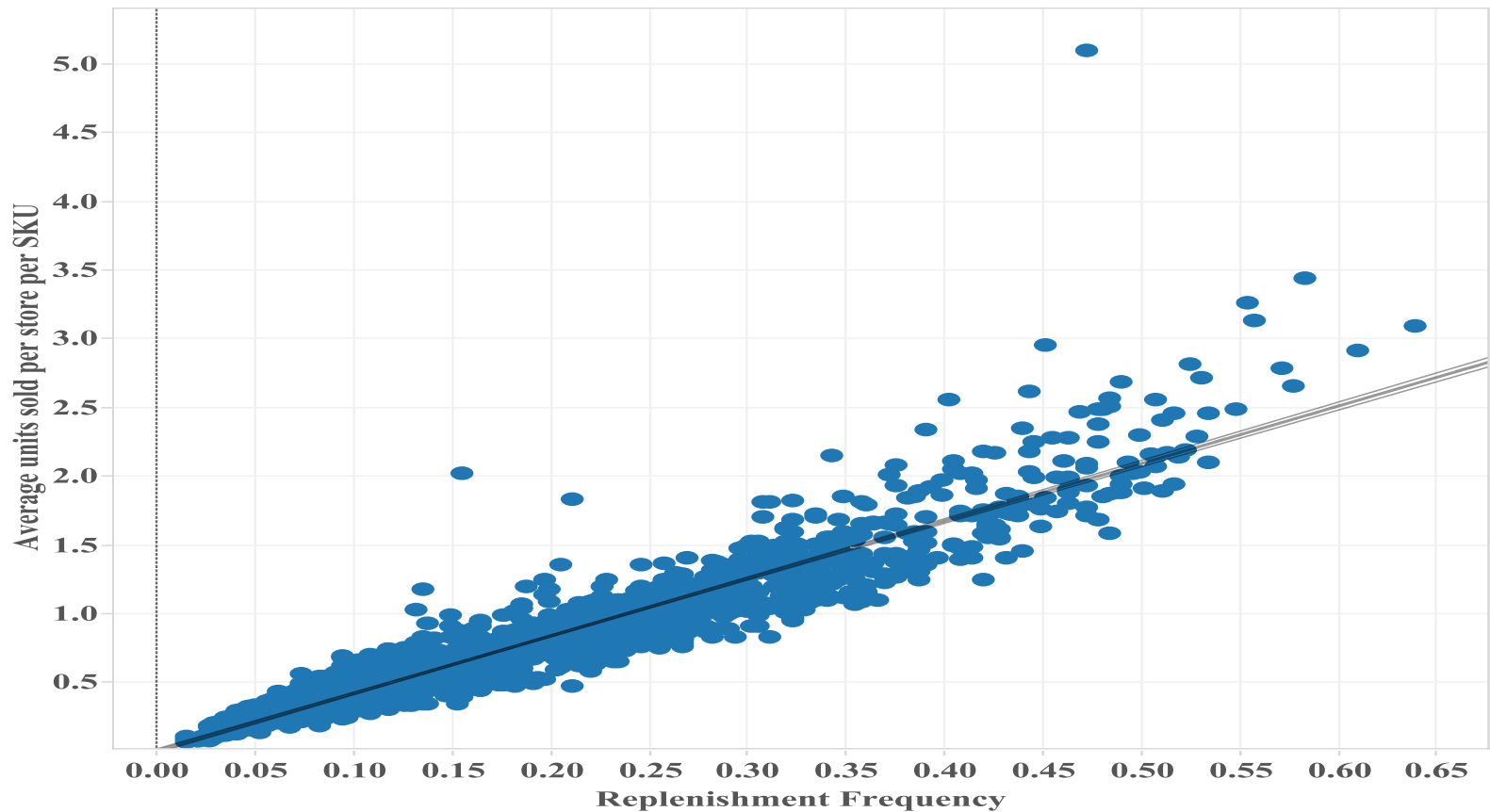
4. Forecast accuracy

- Under-forecasting higher revenue generating SKU's for a different retailer and a different product category, and
- Different retailers have different inventory policies. The retailer might be little conservative while planning the forecast for higher revenue SKU's

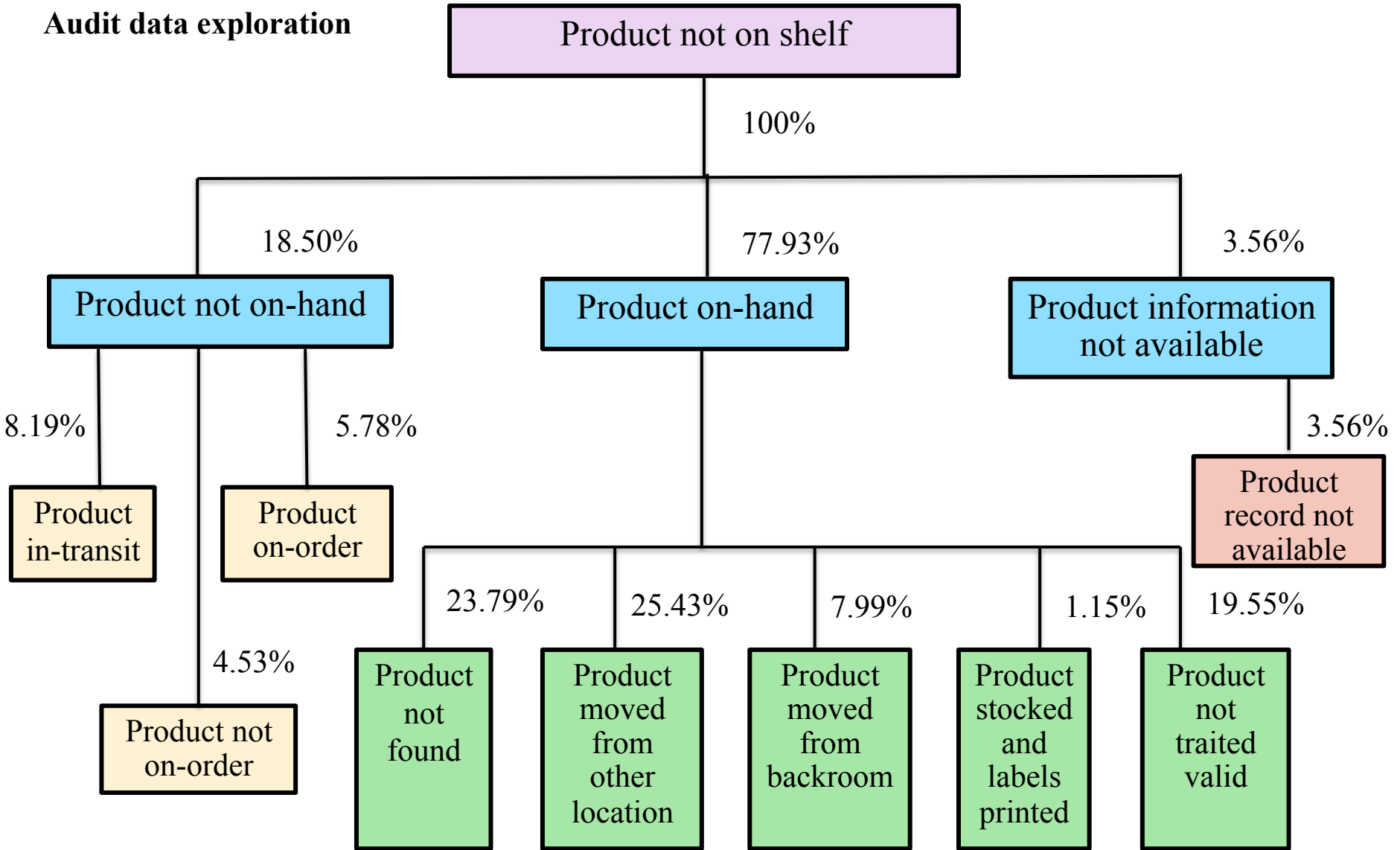
5. Sales Volume

- Higher sales volume store- SKU stock-out lesser compared to lower sales volume store-SKU, and
- Higher replenishment frequency for higher sales volume store-SKU, R value is 0.89.

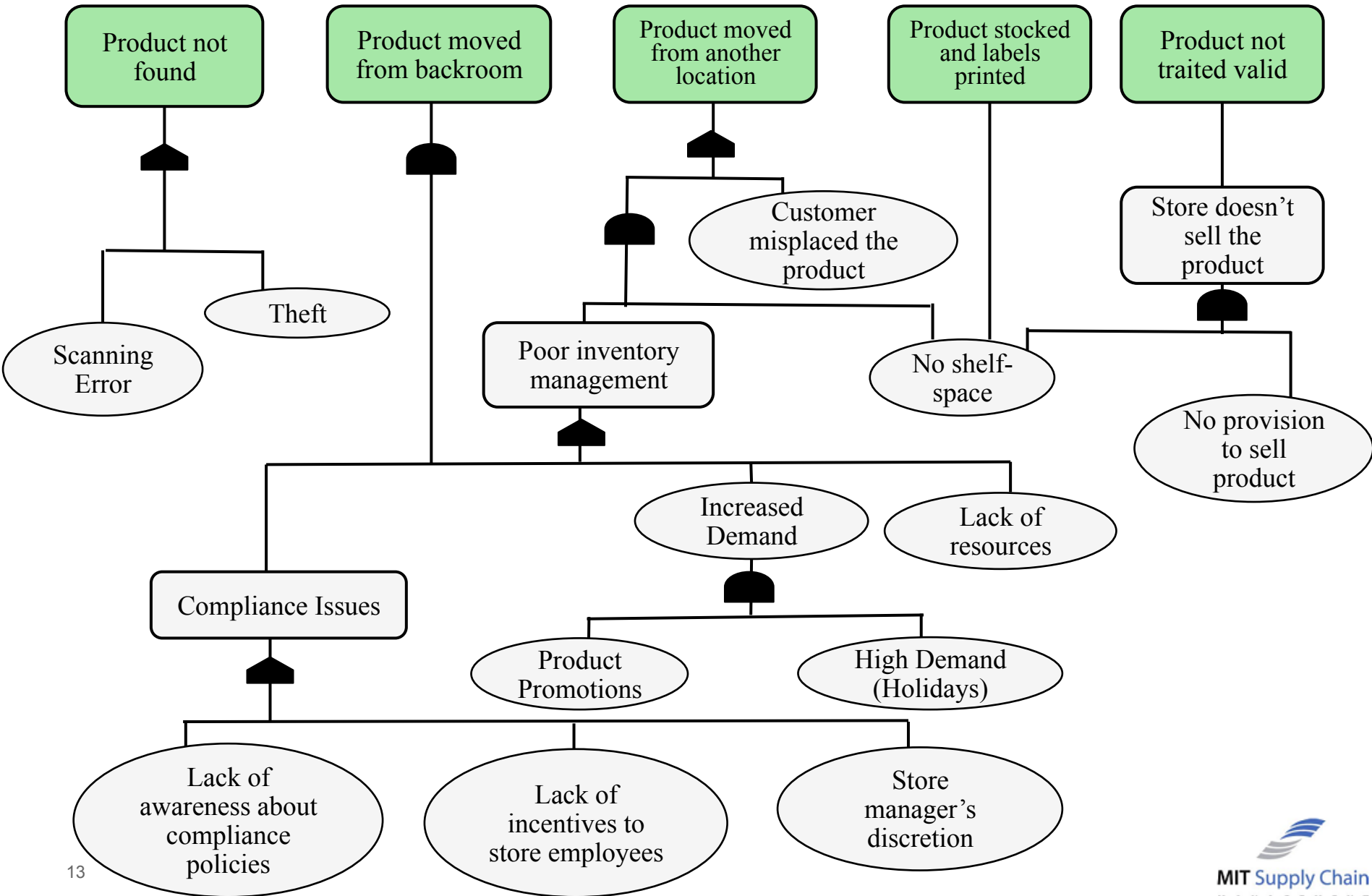
Sheet 10



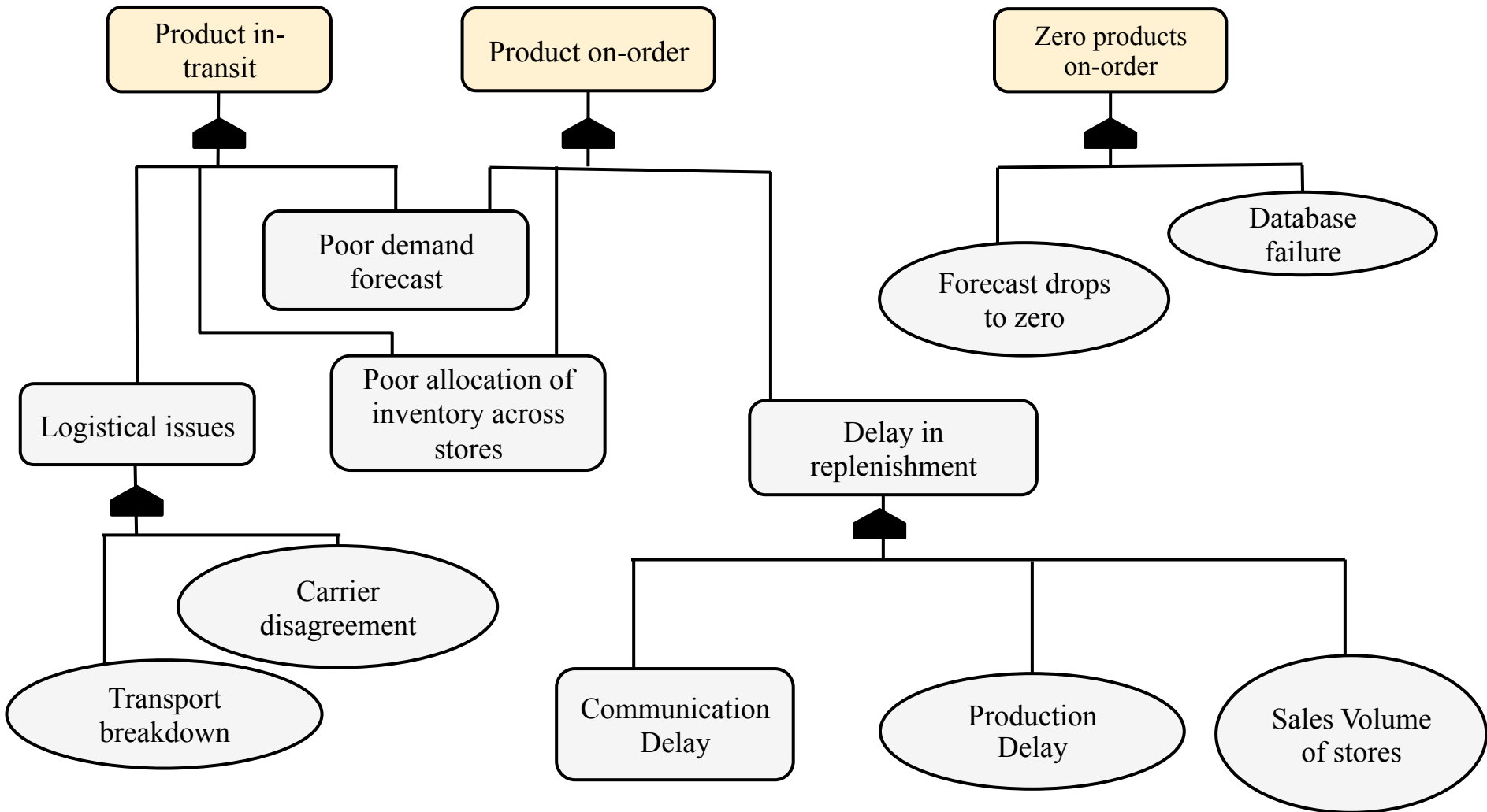
Audit data exploration



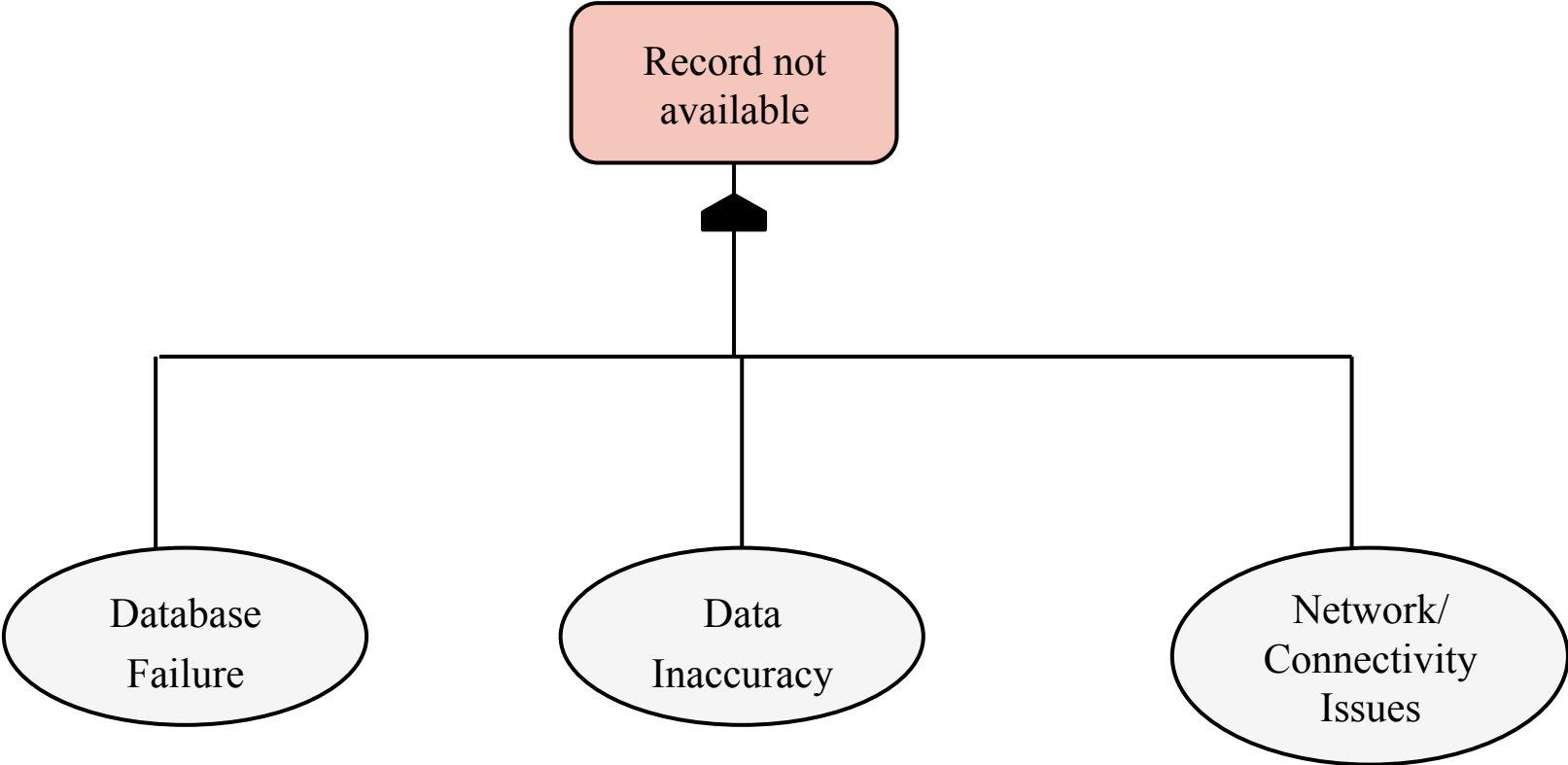
Product on-hand responses



Product not on-hand responses



Product information not available



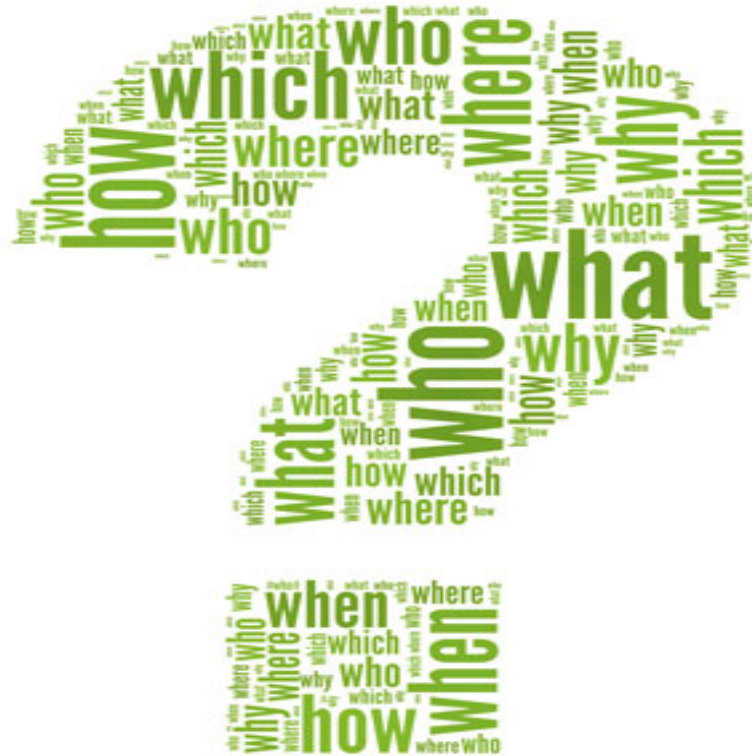
Recommendations

- Emphasizing on promotion evaluation to improve promotion execution,
- Leveraging the strategic partnership with the retailer to understand the store manager's psychology and train the staff to handle periods of high demand and promotions,
- Prioritizing stores based on their performances,
- Allocating auditors to frequently under performing stores,
- Creating a provision in the database to report shrinkage or make supervised manual changes to avoid discrepancies leading to phantom inventory, and
- Investigating the inventory policies of different retailers to improve forecast accuracy.

Key Takeaways

- Audit response data indicates that the CPG manufacturer incurs highest lost sales due to inefficient store operations,
- 77% of the audit responses for zero OSA indicates that the product is on-hand but not on-shelf, leading to phantom OOS,
- “Product moved from other location” and “Product on-hand but not found” are the most frequently occurring responses,
- Customers misplacing the product and poor inventory management during periods of high demand are some of the major root causes of stock-outs, and
- Replenishment frequency is highest during promotions and OOS frequency is highest during pre-promotions.

Questions



Thank You