



Benchmark and Method

Top Suppliers

- HUL
- Garnier
- Himalaya

Naive

Benchmark

Moving Average

Rejected due to high error

Exponential Smoothing

Rejected due to high error

Holt Winter

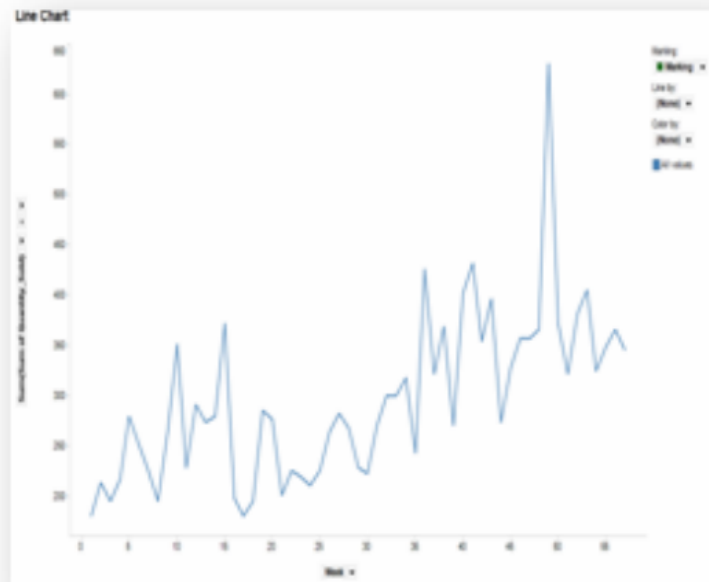
Best model for HUL, Garnier

Multitple Regression

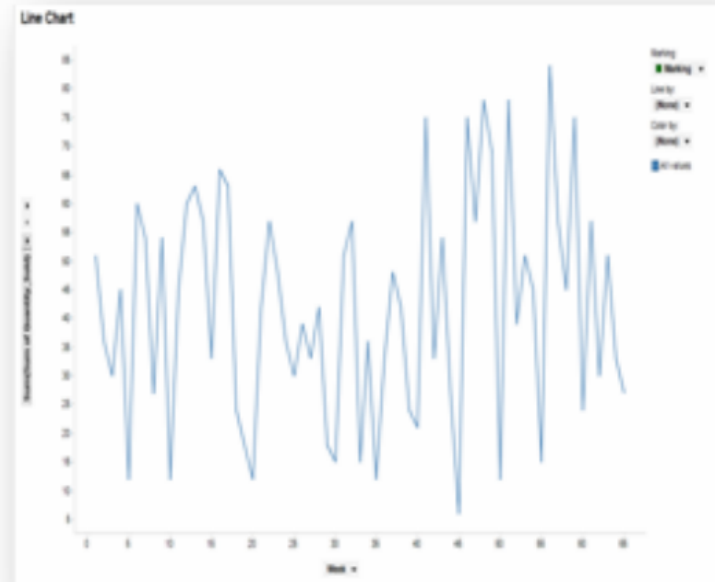
Best model for Himalaya

Data Visualization

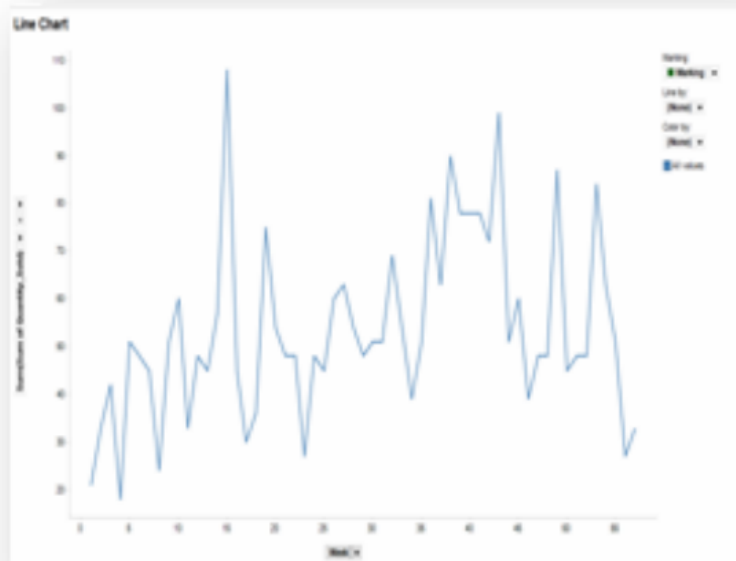
Overall Face wash Category



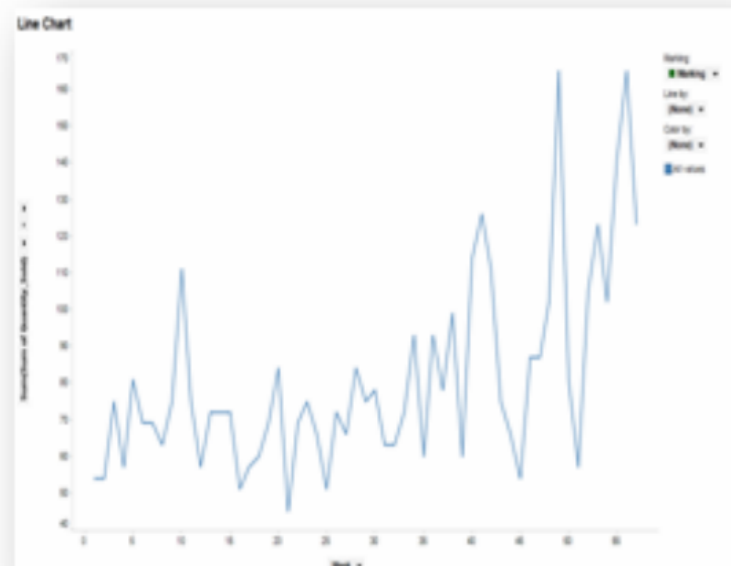
Garnier



HUL

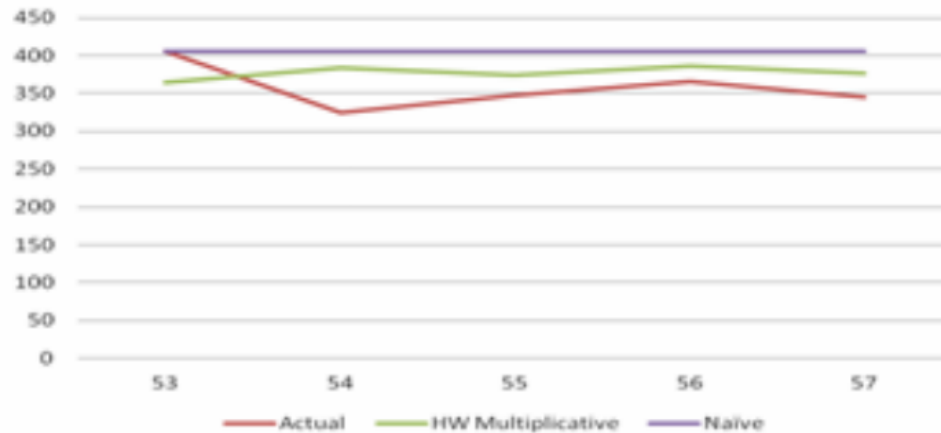


Himalaya



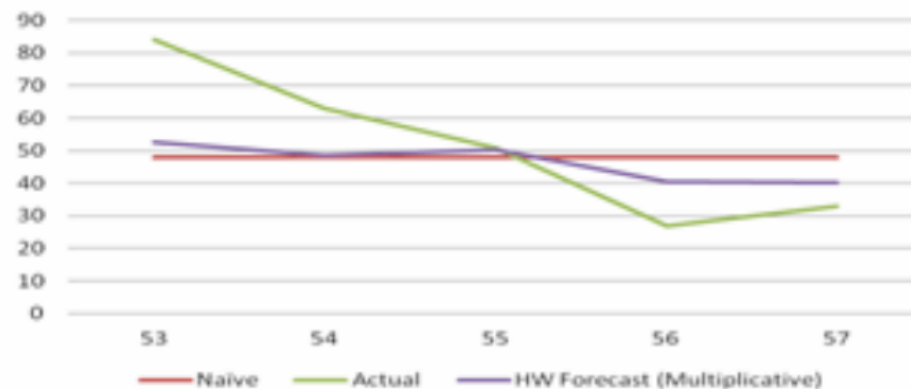
Forecast and Performance

Facewash Category



Week	Actual	HW Multiplicative	Naïve
53	405	364.5	405
54	324	383.9	405
55	348	374.0	405
56	366	386.5	405
57	345	377.0	405
	MAPE	10.16	17.06
	MAD	35.77	48.48

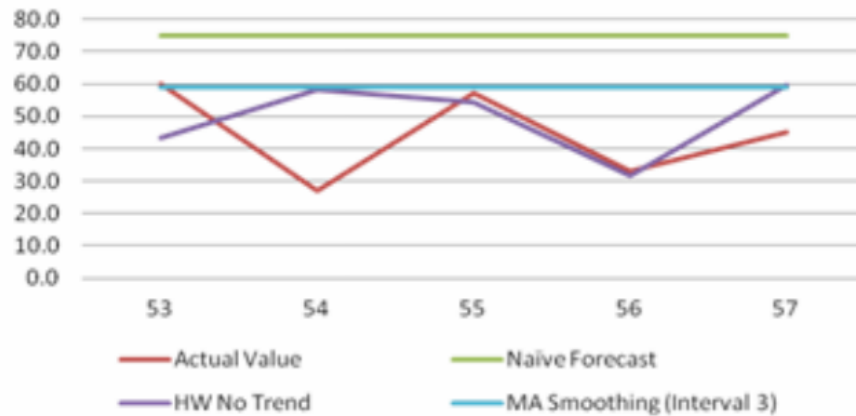
HUL Facewash



Week	Actual	Naïve	HW Forecast (Multiplicative)	HW Forecast (Additive)
53	84	48	52.68	52.44
54	63	48	48.70	48.27
55	51	48	50.24	48.12
56	27	48	40.59	41.56
57	33	48	40.25	39.74
	MAPE	39.16	26.76	28.19
	MAD	18	13.45	14.09
	MSE	439.2	284.69	295.72

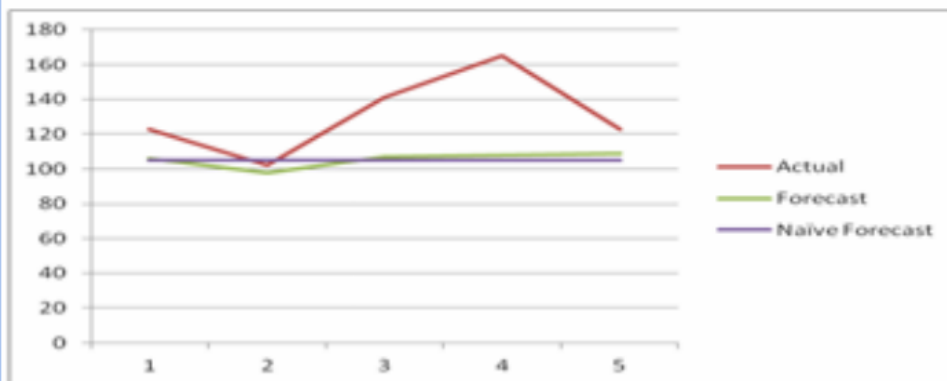
Forecast and Performance

Garnier Facewash



Week	Actual Value	Naïve Forecast	HW No Trend	MA Smoothing (Interval 3)
53	60.0	75	43	59
54	27.0	75	58	59
55	57.0	75	54	59
56	33.0	75	32	59
57	45.0	75	60	59
MAPE		85.7	36.9	46.72
MAD		30.6	13.3	15

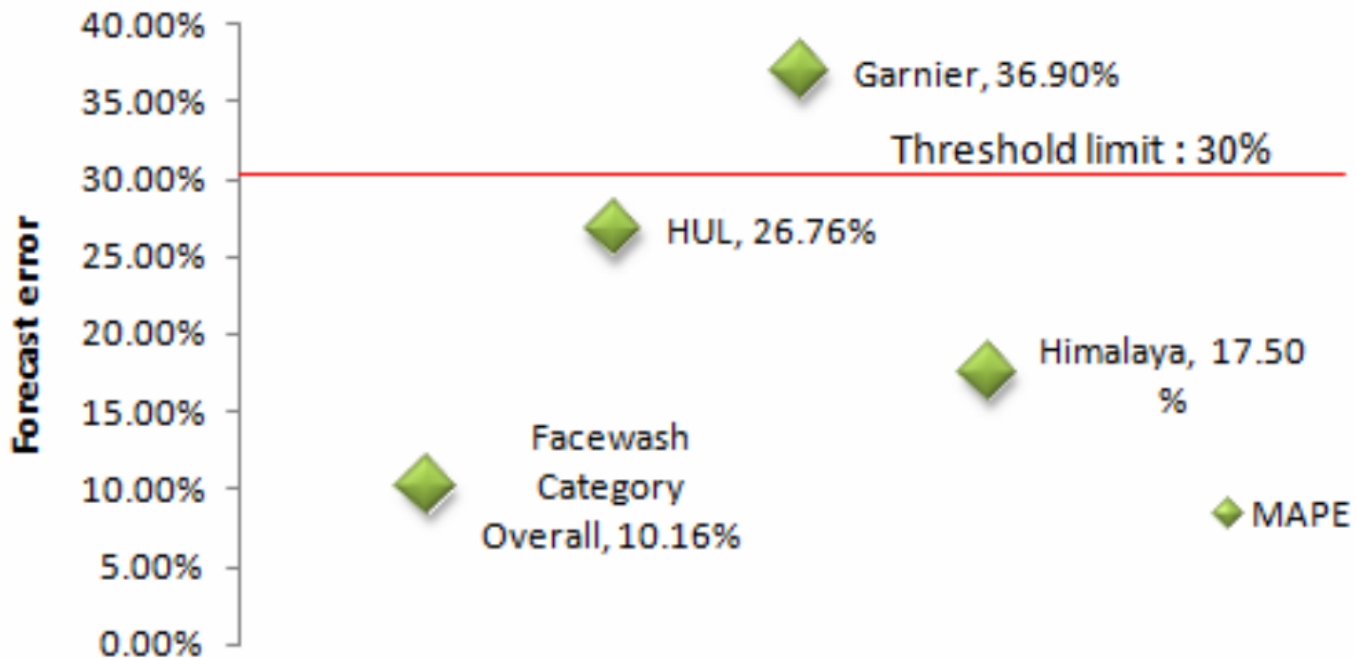
Himalaya Facewash



Week	Actual	Forecast	Naïve Forecast
53	123	105.92	105
54	102	98.03	105
55	141	107.03	105
56	165	107.97	105
57	123	108.91	105
MAPE using LR			17.577658
MAPE of Naïve			18.821004

Performance Metrics

Control Chart



1. Forecasting performance evaluation threshold has been defined as 30%
2. As evident from the control chart, all but Garnier forecast fall well within the threshold limit

Factors Affecting Forecast



- Irregular discounts and promotions
- External economic factors
- Disruption in supply
- Competitors affecting sales due to:
 - Shut down
 - Aggressive discounts/marketing strategy
- New government regulations
- Data itself contains noise

Conclusion and Recommendation

- Enter into incremental revenue share contract with the suppliers. Supplies from bottom 8 players can be redistributed to top 3 brands, thus consolidating the current supplier base
- Alternately, a discount structure of c.10% on entire supplies can be worked out with the top 3 brands