**MMX (Kellogg’s)**

**History:**

Below is the brand list which we modeled over the years ;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Brand Names** | | | | |
| **2017** | **2018** | **2019** | **2020** | **2021** |
| Frosted Flakes | Frosted Flakes | MiniWheat | MiniWheat | MiniWheat |
| SPK Cereal | SPK Cereal | Eggo | Cheez-it | Cheez-it |
| Mini Wheats | Mini Wheats | FF | Eggo | Vector |
| Rice Krispies | Rice Krispies | RKNPF | FF | RKNPF(RKSB) |
| Vector Cereal | Vector Cereal | Vector | Vector | Special K |
| Vector Snacks | Vector Snacks | Special K | RKNPF | Pringles |
| SPK Snacks | SPK Snacks | Pringles | Special K | Kashi NPF |
| Pringles | Pringles |  | Pringles | Kashi RTEC |
|  |  |  | Kashi NPF |  |
|  |  |  | Kashi RTEC |  |

**Brand: Kellogg’s (8 Brands)**

**Industry: FMCG**

**KPI: Sales Volume (Kg)**

**Modelled Period: Jan 2019 to Dec 2021 (SPK, Pringles, Vector, RKSB, Mini Wheat )**

**Modelled Period: Jan 2020 to Dec 2021 (Cheez-it, Kashi NPF, Kashi RTEC)**

**Modelling Methodology: Multiple Linear Regression Model (Additive)**

**The introductory details about Kellogg’s and Modelling.**

* The FMCG product Kellogg’s which we have done the MMX analysis for the Canada region.
* The Market for MMX analysis is Canada.
* The KPI is the Sales volume of the “Kellogg’s brands “The volume for the brand is generated from product purchases.

**Data Availability and Data Used in Modelling:**

* **Base Variables:**

1. We have treated Nielsen measures as base variables i.e. (Total distribution points, Price, competitor price)
2. To capture the COVID impact we have used google mobility data and treated it as a base in the model.

* **Media Variables: (Brand Building - ATL)**

1. TV: It is ads on TV(GRP).
2. OLV: The Ads exhibited on YouTube and other streaming services.
3. Display: The static display campaigns on platforms i.e. Amazon etc..
4. Social: The Campaigns on Social Networking platforms i.e., FB/IG.
5. Search: The campaigns on search engines or ads done through search engine platforms.
6. OOH: The campaigns on Outdoor.
7. EA Game: The campaigns on gaming.
8. Retailer: Retailer media is included for 2020 and 2021.

* **Other Media Variables: (Brand Building - BTL)**

1. POS (Point of Sales) - Spends

2. PR (Promotions)- Impressions/Spends

3. Sampling- Spends

4. Corporate Promotions - Spends

5. Shelf Media- Spends

6. Shopper Program- Spends

7. Coupon- Spends

* **Trade Variables:**

1. Trade spends and Trade promotion i.e. (TDP display, TDP any ad, Unit % sold any TPR) these variables are treated as trade in the model.

***Modeling Approach***

1. Baseline Model approach is taken - Wherein we first tested the most significant base variables into the model; once we had a decent read, we included the incremental variables on top of it to be able to gauge their impact on the model. Leftovers (Especially sharp spikes and dips) are finally explained through Google mobility and indicators variable as a dummy.

**How did we arrive at the priors?**

1. It was an iterative trial and error
2. The variables were first tested as free-floating in the models in a multivariate environment
3. Priors applied based on their impact on fit and its commercial implications

**How did we confirm the transformation?**

1. Gamma transformation is applied to all media tactics.
2. Test and Trial methods used to see what saturation parameters give the best fit and accordingly used.
3. Base variables TDP and Google mobility were tested directly. However, log transformation was used for the price.
4. Trade variables i.e. (TDP any ad, TDP any Display, and Unit % sold any TPR) tested with log transformation.
5. Competition TDP tested directly and trade variables with log transformation.
6. To capture the impact of COVID, we used Google Mobility (Residential) variable in the model – Again, it is decided based on correlation, trial, and test run.

**What are the validation checks?**

1. Model validation parameters R-square and MAPE shared with the client as tech review
2. Checked the commercial aspects of results - ROIs were explained using CPP, spending, and support
3. The results were first discussed internally and then presented to Biren before the presentation with Kellogg’s, followed by the Client.

**Other deliverables (RC, ROI Bridge chart, Total Kellogg’s Rollup, Coupon Analysis, Masterbrand Analysis):**

1. RC curves were built on 2021 data (Only for TV and OLV)
2. Bridge chart – indicates the drives of change in ROI (2020 Vs. 2021 ROI)
3. Total Kellogg’s Rollup ROIs are provided.
4. Coupon Analysis is done to generate ROIs.
5. Masterbrand Analysis is provided based on two major campaigns.

**Drive Location for Final Files:**

[Kelloggs 2022-all files collated - OneDrive (sharepoint.com)](https://analyticedge-my.sharepoint.com/personal/divyasrivastav_analytic-edge_com/_layouts/15/onedrive.aspx?id=%2Fpersonal%2Fdivyasrivastav%5Fanalytic%2Dedge%5Fcom%2FDocuments%2FDeep%20dives%202020%5F2021%2FKelloggs%202022%2Dall%20files%20collated&ct=1663324723859&or=OWA%2DNT&cid=87cd84f8%2D42a5%2D6676%2Db684%2D26838544048c&ga=1)

https://analyticedge-my.sharepoint.com/:f:/g/personal/divyasrivastav\_analytic-edge\_com/EhZZF7qGjDJOluKguP500kIB9p\_Qzgybs7Y94e0etZal5w

**System information:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **URL for DDE** | **Client Name on DDE** | **Final Model Iteration** | **Mail Id** | **Password** |
| http://modeling.ae-dde.com/ | VECTOR\_MMM\_2022 | new\_model\_newgrp\_21 | nitinwangnoo@analytic-edge.com | NITINWAN@12345 |
| http://modeling.ae-dde.com/ | MMM\_KELLOGGS\_PRINGLES\_2022 | P13 | nitinwangnoo@analytic-edge.com | NITINWAN@12345 |
| http://modeling.ae-dde.com/ | KASHI\_NPF\_MMM\_2022 | kashinpfmodel\_final | divyasrivastav@analytic-edge.com | DIVYA@12345 |
| http://modeling.ae-dde.com/ | SPECIALK2019\_2022 | Itr\_cp1 | divyasrivastav@analytic-edge.com | DIVYA@12345 |
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