Greek Yogurt New Flavor Recommandation

MSMA GROUP 11

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Predictive Methodology

Goal

After basic data exploration, we found that customer have preferable flavors for Greek yogurt, while there is no obvious difference between flavors of Regular yogurt. Thus, it is wise to focus on Greek yogurt to launch new flavors. Our goal is to figure out the optimal new flavor sets by analysis.

Data	Analysis	Recommendation

System Data

Survey Data

Sales
flavors having good sales performance

TURF
flavor sets achieving the highest reach

Preference
flavors bought by customers frequently

New flavor sets
- reaching broad customers
- popular items and leading to sales increase

Key Insights

Pineapple, **Black Cherry**, **Lemon** and **Raspberry** should be the next flavors to launch.

Our recommended four flavors **sold well** in Greek yogurt market, ranking 1st, 2nd, 3rd and 6th.
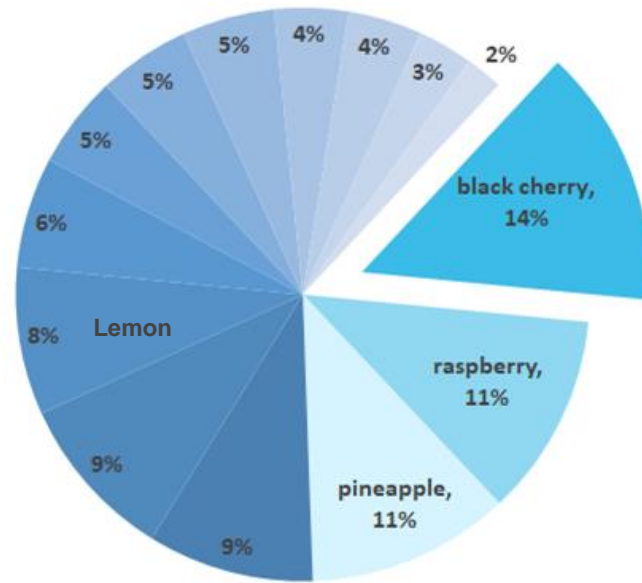
The existing flavors already let us enjoy a **97.68% reach**, while these four flavors can further bring up reach by **2%**.
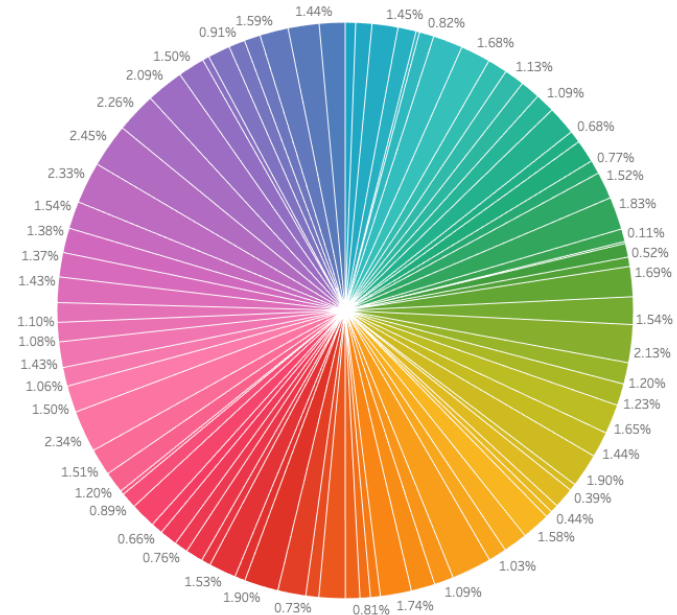
In addition to the flavors we have, consumers would buy our recommended flavors **frequently**.

Flavor leads to greater difference in sales for greek yogurt than regular yogurt

Greek Yogurt Weekly Sales by Flavor
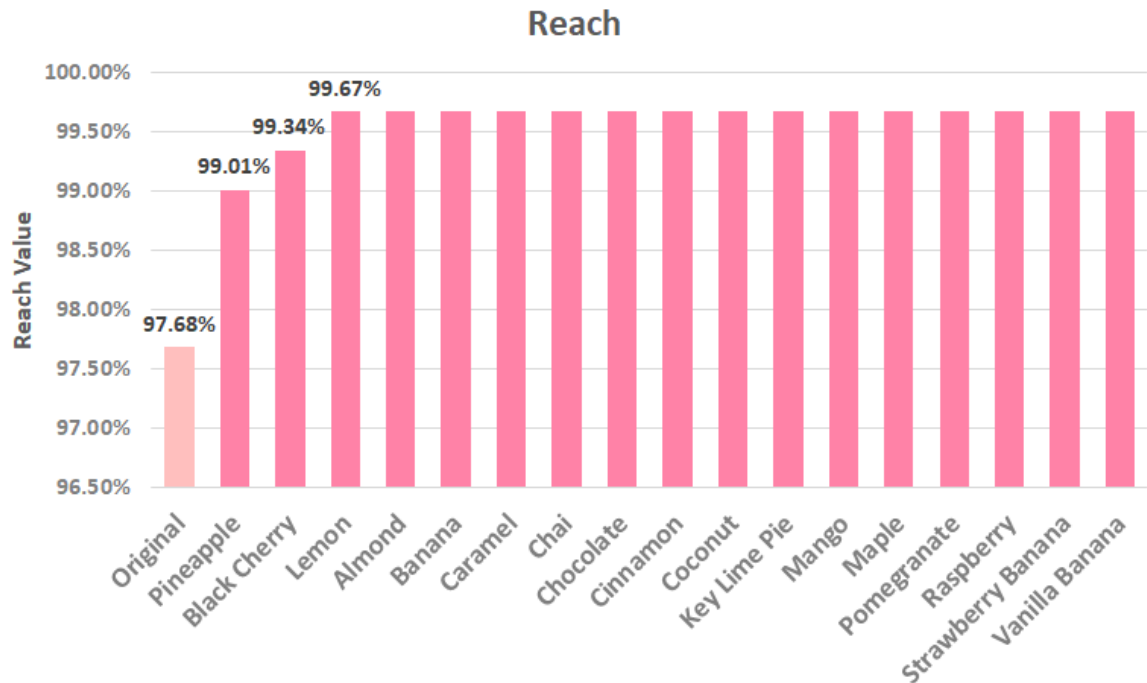
Regular Yogurt Weekly Sales by Flavor

Source: Loyalty Card System, see details in Appendix A

TURF Analysis

Reach

Reach Value: 97.68% (Original), 99.01% (Pineapple), 99.34% (Black Cherry), 99.67% (Lemon), and remaining flavors: Almond, Banana, Caramel, Chai, Chocolate, Cinnamon, Coconut, Key Lime Pie, Mango, Maple, Pomegranate, Raspberry, Strawberry Banana, Vanilla Banana
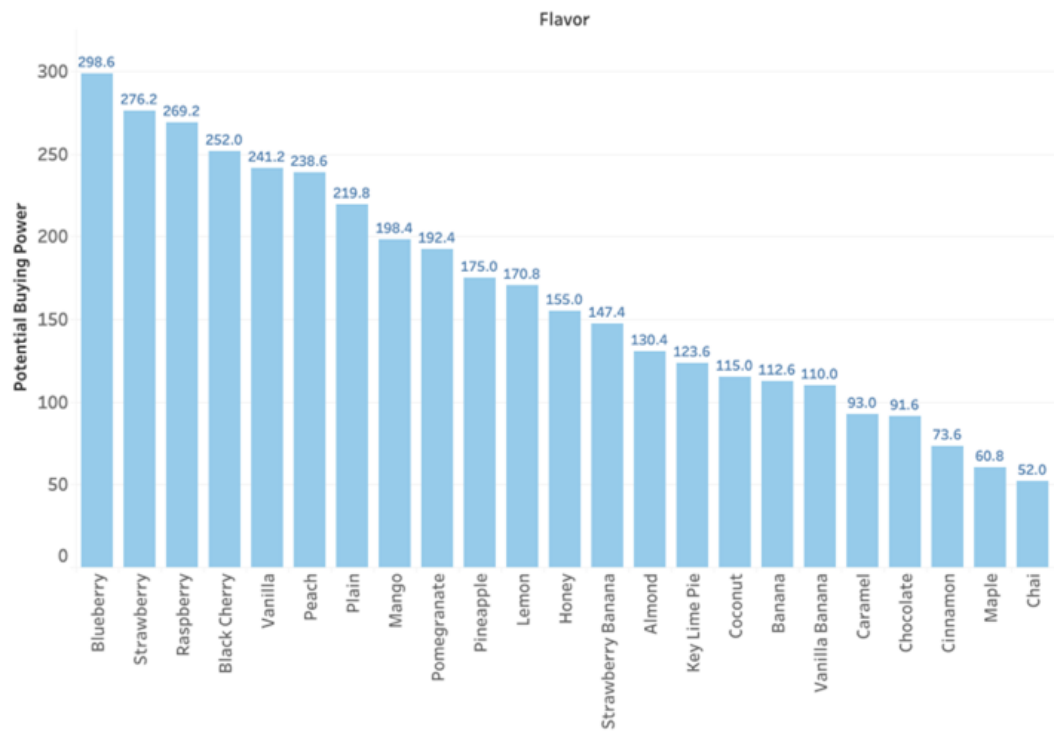
Launching **Pineapple, Black Cherry** and **Lemon** flavors can cover the most potential consumers.

Concern:
TURF Analysis didn't consider differences among purchase frequency.

Consumer Preferences on Flavors (Survey)

Assumption:

Frequency	Weight
Regularly	0.8
Occasionally	0.2
Never	0
NA	Ignored

Besides current flavors, **Raspberry** is the No.1 flavor consumers choose in the survey.

Source: Consumer Survey Data; Sample Size = 618, see details in Appendix B

*Potential Buying Power = sum(Number of consumers of different

Appendix A – Sales Percentage Calculation

```
####### OUTPUT FOR SLIDE 3 #######
greekdt$SalesPercent <- greekdt$Sales.Week/sum(greekdt$Sales.Week)
regdt$SalesPercent <- regdt$Sales.Week/sum(regdt$Sales.Week)
greekdt
```

```
##         Flavor1 Sales.Week SalesPercent
## 1   black cherry  409.56306   0.14409692
## 2      raspberry  324.23641   0.11407637
## 3      pineapple  302.74007   0.10651330
## 4    pomegranate  261.64670   0.09205538
## 5       strawban  257.58329   0.09062575
## 6          lemon  225.62832   0.07938300
## 7          mango  160.62281   0.05651206
## 8          peach  153.64463   0.05405692
## 9      blueberry  145.36000   0.05114213
## 10       vanilla  137.00854   0.04820383
## 11    strawberry  124.35788   0.04375294
## 12         plain  110.47254   0.03886765
## 13         honey   82.12116   0.02889276
## 14        cherry   65.32754   0.02298424
## 15         chpom   44.63794   0.01570501
## 16       keylime   37.32404   0.01313175
```

```
regdt
```

```
##                    Flavor1 Sales.Week SalesPercent
## 1     strawberry/blueberry  76.765011   0.024467542
## 2         raspgoji/blueacai  73.288786   0.023359555
## 3                strawchsck  73.078067   0.023292392
## 4         strawberry/peach  70.803555   0.022567430
## 5                 lmntorte  70.274193   0.022398705
## 6                 chocrasp  66.743320   0.021273299
## 7   strawberry/peach/vanilla  65.697507   0.020939964
## 8                 orgmango  59.756589   0.019046397
## 9                cookiecrm  59.547512   0.018979757
## 10               boscrmpie  57.433221   0.018305863
## 11               mnmvanilla  54.704808   0.017436228
## 12                 vanilla  54.558251   0.017389515
## 13                  cherry  52.951208   0.016877298
## 14               bancrmpie  52.646834   0.016780283
## 15                  banana  52.188651   0.016634246
## 16                 cocpnple  51.793744   0.016508376
## 17                blkbrypie  50.764091   0.016180191
## 18                strshortck  50.036713   0.015948352
## 19                 keylime  49.661280   0.015828689
## 20                  orange  49.173633   0.015673260
## 21                chocolate  48.290154   0.015391666
## 22                strawberry  48.224766   0.015370824
## 23                   peach  47.898937   0.015266972
## 24                blueberry  47.596124   0.015170456
## 25                raspberry  47.486160   0.015135406
## 26                 raspchsck  47.119852   0.015018652
## 27     strawberry/raspberry  47.026998   0.014989056
## 28              mixed berry  46.097119   0.014692673
## 29                apltrnovr  45.503319   0.014503410
## 30            vanilla/keylime  45.325204   0.014446639
```

Appendix B – Consumer Preferences Analysis (Survey)

```r
####### OUTPUT FOR SLIDE 6 #######
survques <- as.data.frame(t(survques))
survres <- survres[survres$Q1 != 2 & survres$V10 != 0, ]

greekres <- survres[, c(15:37)]
names(greekres) = sub('......$', '', substr(survques[c(15:37),], 105, 130))
greekres <- greekres[-which(apply(greekres,1,function(x) all(is.na(x)))), ]
for (i in c(1:ncol(greekres))){
    a <- nrow(greekres[which(greekres[, i] == 0),])*0.8 + 0.2*nrow(greekres[which(greekres[, i] == 1),])
    greekres[605, i] <- a
}
yogrank <- t(greekres[605, ])
yogrank <- yogrank[order(yogrank, decreasing = TRUE),]
yogrank
```

```
##          Blueberry         Strawberry          Raspberry        Black Cherry
##              298.6              276.2              269.2              252.0
##            Vanilla              Peach              Plain              Mango
##              241.2              238.6              219.8              198.4
##        Pomegranate          Pineapple              Lemon              Honey
##              192.4              175.0              170.8              155.0
## Strawberry Banana             Almond       Key Lime Pie            Coconut
##              147.4              130.4              123.6              115.0
##             Banana     Vanilla Banana            Caramel          Chocolate
##              112.6              110.0               93.0               91.6
##           Cinnamon              Maple               Chai
##               73.6               60.8               52.0
```