

The background is a light gray textured surface with various food and drink illustrations. In the top left, there are red chili peppers and a green leaf. In the top center, there is a yellow bottle with a brown label. In the top right, there is a red napkin with two silver forks and some yellow flowers. In the bottom left, there is a large bowl of Korean food (Bibimbab) with a fried egg, surrounded by other dishes and chopsticks. In the bottom right, there is a blue and white checkered tablecloth with a bowl of food, a tomato, and a spoon.

What's Trending in the Food & Beverage Industry?

Analysing New Trends in North American Region

Case Study Analysis
by
Ravi Chandrika
for

**Tiger
Analytics**

Important Links

- **Power BI Dashboard**

<https://www.novypro.com/project/what%E2%80%99s-trending-in-the--food--beverage-industry--analysing-new-trends-in-north-american-region>

- **Github link with project documents:**

<https://github.com/RAVI-CHANDRIKA-05/Whats-Trending-in-the-Food-Beverage-Industry>

Problem Statement

The current data set provides comprehensive information on new Food and Beverage (F&B) product launches globally, encompassing details such as product attributes, flavors, launch dates, and positioning categories. However, a challenge lies in extracting meaningful insights, particularly with regard to F&B flavors in the North America region.

The goal of this assignment is to derive actionable insights, particularly focusing on the North America region, to assist stakeholders in making informed decisions regarding F&B product launches and flavor preferences.

In addition to this as a As the Brand Manager in the Consumer Packaged Goods (CPG) - Foods business, for any Market-category, determining whether to launch a new brand variant involves a strategic decision-making process. The outcome of this analysis will impact the product portfolio, market positioning, and overall brand performance.

Here are the key outcomes from this analysis:

Key Takeaway

1. Trend in New Product Introductions:

New product launches have consistently increased over the years, with a notable surge in 2009 and a slight dip in 2007.

2. Market Focus and Expansion:

The primary market focus has been on the USA, with limited launches in Canada. However, there was a significant increase in product additions to the Canadian market in 2007 and 2009.

3. Global Expansion:

Mexico entered the market in 2008, showcasing the expansion of product entries into new regions.

4. Consumer Preferences and Health Trends:

Consumers prioritize convenience and natural, organic, low-calorie options with antioxidants, and no additives or preservatives. This trend aligns with a growing emphasis on passive health benefits.

5. Flavor Diversity and Trends:

There is a diverse range of flavors, with a notable preference for plant-based options. Fruit and botanical flavors, including Orange and Pomegranate, have gained popularity.

6. Market Share and Category Insights:

Juice and juice drinks dominate the market share at 36.18%, followed by drink concentrates and mixes at 18.4%, and Iced tea at 10.41%. Carbonates, bottled water, and energy drinks collectively account for 25% of the market.

7. Iced Tea Category Trends:

Green tea, lemon tea, white tea, and black tea remain popular in the iced tea category. Peach-flavored tea gained traction from 2006 onwards.

Key Takeaway

8. Flavor Variation and Market Position:

Between 2001-2010, there are flavors associated with only one product, indicating diversity. Iced tea holds a significant market position with a 10.41% share.

9. Spice and Flavor Popularity:

Traditional spices like ginger, cinnamon, cardamom, and lemongrass maintain popularity. Wasabi has surged in the last five years, and turmeric has gained traction since 2008.

10. Trend in New Product Introductions Over Time:

The percentage of new product introductions has varied over the years, experiencing peaks and troughs. This reflects the dynamic nature of the market and consumer preferences.

Business ideas and SKUs

1. Immunity Boost Iced Tea (SKU):

Infuse iced tea with natural ingredients known for immune support with a hit of vitamin C. Capitalize on the growing consumer mood towards health-conscious beverages.

2. Global Fusion Flavors Pack (SKU):

Introduce a variety pack of iced teas featuring unique global flavors inspired by Italian, Chinese, and Japanese culinary influences. We can offer flavors like Italian Lemon Twist, Chinese Green Jasmine, Japanese Cherry Blossom and Masala Chai.

3. Eco-Friendly and Sustainable packaging:

Launch an eco-friendly line of iced teas packaged in sustainable materials with regenerative and upcycled labelling. Appeal to environmentally conscious consumers seeking ethically sourced beverages.

4. Exotic Spice Infusion Iced Tea (SKU):

Create a line of iced teas infused with exotic spices like ginger, cinnamon, cardamom, and lemongrass. Offer a unique and flavourful experience for consumers looking for a departure from traditional tea options.

5. Tropical Paradise Hydration Pack (SKU):

Develop a iced tea line featuring tropical flavors, herbs, and botanicals sourced from different parts of the world. Cater to consumers seeking low-calorie, natural, and refreshing fruity options.

6. Customizable DIY Iced Tea Kits (SKU):

Offering Do-It-Yourself (DIY) iced tea kits. Provide a range of base teas and flavor enhancers, allowing customers to create their personalized iced tea blends at home.

Overview

Flavor Classification Dataset.csv

| Flavor_Group | Flavor |
|--------------|------------------|
| Alcohol | Vodka, Citron |
| Alcohol | Bacardi |
| Alcohol | Bacardi, Gold |
| Alcohol | Bacardi, Silver |
| Alcohol | Beer, Ale |
| Alcohol | Beer, Amber |
| Alcohol | Beer, Amber Ale |
| Alcohol | Beer, Amstel |
| Alcohol | Beer, Black |
| Alcohol | Beer, Blonde |
| Alcohol | Beer, Blonde Ale |
| Alcohol | Beer, Bock |
| Alcohol | Beer, Brown |
| Alcohol | Beer, Brown Ale |
| Alcohol | Beer, Dark |
| Alcohol | Beer, Dark Ale |
| Alcohol | Beer, Dark Amber |
| Alcohol | Beer, Draft |

Positioning Category Mapping Dataset.csv

| Positioning Group | Positioning Subcategory |
|-------------------|---------------------------|
| Age | Children (5-12 years) |
| Age | Seniors (55+) |
| Others | Economy |
| Choice | Halal |
| Choice | Kosher |
| Choice | Vegetarian |
| Co-Branding | Co-Branding |
| Supplements | Anti-Cancer |
| Supplements | Blood Pressure |
| Supplements | Bone Health (Supplements) |
| Supplements | Brain-Mood Health |
| Supplements | Children |
| Supplements | Diabetes |
| Supplements | Digestive/Liver Health |
| Supplements | Energy and Stamina |
| Supplements | Eye Health (Supplements) |
| Supplements | Health/Wellness |

Product Launch Dataset.csv

| Product id | Flavor | Market Subcategory | Launch Date | Country | Region | Positioning |
|------------|---|----------------------------|-------------|---------|---------------|--|
| 1 | Herbs, not specified; Fruit, not specified | Other Soft Drinks | 01/01/2001 | WE1 | West Europe | Low Calorie, Natural |
| 2 | Fruit, not specified | Carbonates | 01/01/2001 | WE2 | West Europe | Convenience - Consumption |
| 3 | Lemon; Honey; Ginger | Juice & Juice Drinks | 01/01/2001 | WE2 | West Europe | 100% Not from Concentrate, Convenience - Consumption, Natural |
| 4 | Mango; Passion Fruit | Juice & Juice Drinks | 01/01/2001 | WE2 | West Europe | 100% Not from Concentrate, Convenience - Consumption, No Added Sugar, No Additives/Preservatives |
| 5 | Mango | Juice & Juice Drinks | 01/01/2001 | WE2 | West Europe | 100% Not from Concentrate, Convenience - Consumption, No Additives/Preservatives |
| 6 | Fruit, not specified | Juice & Juice Drinks | 01/01/2001 | WE1 | West Europe | Nectars (25-99% juice), Low Calorie, Vitamin/Mineral Fortified, Digestive/Gut Health, High/Source of Fibre |
| 7 | Fruit, not specified | Drink Concentrates & Mixes | 01/01/2001 | NA1 | North America | Dry, Low Fat, Low Sodium, Low Calorie, Low Carb |
| 8 | Apple, Red; Pineapple; Guava | Juice & Juice Drinks | 07/01/2001 | AU1 | Australasia | Nectars (25-99% juice), Antioxidant, Low Fat, No Added Sugar, No Additives/Preservatives, Immune Health |
| 9 | Cherry, Not specified; Vanilla, Not specified | Bottled Water - Flavoured | 01/01/2001 | NA1 | North America | Convenience - Packaging |
| 10 | Orange, not specified | Juice & Juice Drinks | 01/01/2001 | NA1 | North America | Low Calorie, Low Sugar |
| 11 | Superfruit, Pomegranate; Berry, Blackberry | Carbonates | 01/01/2001 | NA1 | North America | Female, Antioxidant, Low Calorie, Low Carb, Sugar Free, Anti-Aging/Aging-Well, Skin Health, Convenience - |
| 12 | NA | Juice & Juice Drinks | 01/01/2001 | WE3 | West Europe | 100% Not from Concentrate, No Added Sugar, Vitamin/Mineral Fortified |
| 13 | NA | Juice & Juice Drinks | 01/01/2001 | WE3 | West Europe | Nectars (25-99% juice), Energy/Alertness, Vitamin/Mineral Fortified |

Data Cleaning and Dataset Creation Approach in Python:

➤ Filtering data for north-america region:

The scope of this exercise involves analysis for North American region only. Hence I have filtered the data for North America region before performing any necessary data manipulations to create our analytical datasets, to reduce our computational inputs and outputs.

➤ Creating a product flavor group:

- Explode the "Flavor" column in product data, which has multiple flavors separated by ; into individual rows, with one flavor per row.
- Convert "Flavor" column in product data to lower case and strip any extra whitespace
- Convert "Flavor" column in flavor data to lower case and strip any extra whitespace

➤ Dataset Export:

- Save the cleaned dataset for further analysis, ensuring it's ready for Power BI.

| | Product id | Market Subcategory | Launch Date | Country | Flavor | Flavor_Group |
|----|------------|-----------------------------|-------------|---------|---------------------------|----------------|
| 0 | 7 | Drink Concentrates & Mixes | 01/01/2001 | NA1 | fruit, not specified | Fruit |
| 1 | 9 | Bottled Water - Flavoured | 01/01/2001 | NA1 | cherry, not specified | Fruit |
| 2 | 9 | Bottled Water - Flavoured | 01/01/2001 | NA1 | vanilla, not specified | Vanilla |
| 3 | 10 | Juice & Juice Drinks | 01/01/2001 | NA1 | orange, not specified | Fruit |
| 4 | 11 | Carbonates | 01/01/2001 | NA1 | superfruit, pomegranate | Fruit |
| 5 | 11 | Carbonates | 01/01/2001 | NA1 | berry, blackberry | Fruit |
| 6 | 15 | Juice & Juice Drinks | 01/01/2001 | NA2 | superfruit, acai | Fruit |
| 7 | 15 | Juice & Juice Drinks | 01/01/2001 | NA2 | herbs, not specified | Herbs |
| 8 | 47 | Carbonates | 01/01/2001 | NA1 | mandarin | Fruit |
| 9 | 47 | Carbonates | 01/01/2001 | NA1 | mint, not specified | Mint & Menthol |
| 10 | 48 | Iced Tea | 01/01/2001 | NA1 | lemon | Fruit |
| 11 | 49 | Juice & Juice Drinks | 01/01/2001 | NA1 | wildberry | Fruit |
| 12 | 50 | Juice & Juice Drinks | 01/01/2001 | NA1 | grapefruit, red | Fruit |
| 13 | 51 | Energy Drinks | 01/01/2001 | NA1 | grapefruit, not specified | Fruit |
| 14 | 101 | Energy Drinks | 01/01/2001 | NA1 | berry, mixed | Fruit |
| 15 | 102 | Carbonates | 01/01/2001 | NA1 | spices, not specified | Spices & Seeds |
| 16 | 102 | Carbonates | 01/01/2001 | NA1 | cola | Brown Flavors |
| 17 | 103 | Bottled Water - Unflavoured | 01/01/2001 | NA1 | unflavored | Unflavored |
| 18 | 105 | Bottled Water - Unflavoured | 01/01/2001 | NA1 | unflavored | Unflavored |
| 19 | 106 | Sports Others | 01/01/2001 | NA1 | vanilla, not specified | Vanilla |
| 20 | 107 | Sports Drinks RTD | 01/01/2001 | NA1 | orange, not specified | Fruit |

Assumptions for the Project:

- **Role of Flavor:**

Assumption: The popularity of a flavor is directly correlated with its sales performance.

Rationale: The consumers' preferences and purchasing decisions are driven by the flavors of F&B products.

- **Country assumption:**

Assumption: NA region comprises countries as the USA (NA1), Canada (NA2), and Mexico (NA3).

- **Sales Data Proxy:**

Assumption: The number of distinct products launched is a proxy for sales data.

Rationale: Assuming that the addition of new products signifies successful flavors and potential sales growth.

- **Launch Date Impact:**

Assumption: Recent product launches are more reflective of current market trends.

Rationale: Giving more weight to products launched in the last 5 years to identify emerging flavors.

- **Product Launch Frequency:**

Assumption: Higher product launch frequency indicates a dynamic market.

Rationale: Frequent launches may indicate a competitive market where innovation and variety are crucial.

- **Brand Loyalty:**

Assumption: Existing SKUs may have established brand loyalty.

Rationale: Recognizing that retaining existing products might be beneficial if they have a loyal customer base.

- **Market Saturation:**

Assumption: Market saturation may lead to SKU removal decisions.

Rationale: Evaluating whether the market is saturated with similar products and if removing certain SKUs could streamline the product line.

These assumptions provide a foundation for interpreting the data and making informed decisions regarding product launches and SKU management. They guide the analysis of F&B flavors in the North America region and aid in the decision-making process for a Brand Manager in the CPG - Foods business.



Overview of New Product Launches Over Years

2001

2010

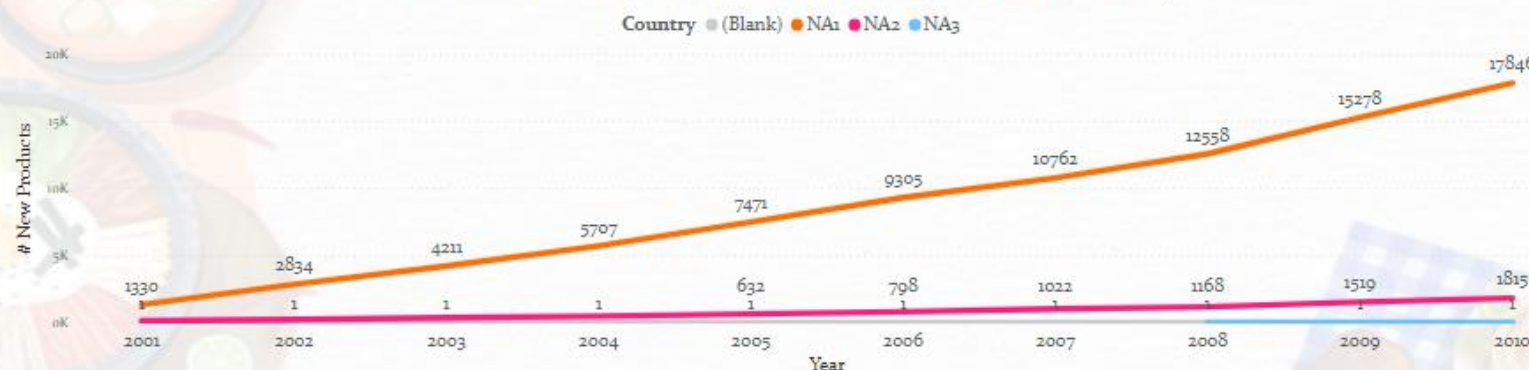
New Product Launches Over Years



Products

19.66K

New Product Launches Over Years (Cumulative View)

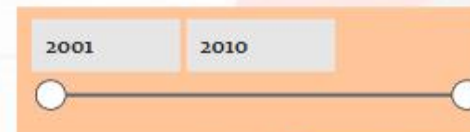
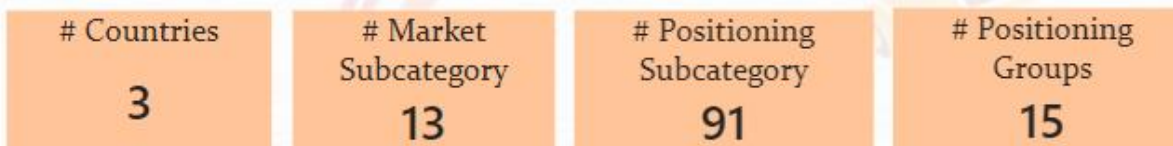


- The introduction of new products has displayed a consistent upward trend over the years.
- Notably, there was a lower influx of new products in 2007, while a substantial surge occurred in 2009 over the last 5 years.
- The primary market focus has been on the USA, with minimal product launches observed in Canada.
- A noteworthy exception is the significant increase in product additions to the Canadian market in 2007 and again in 2009.
- The inaugural product launch in Mexico took place in 2008, marking the initiation of product entries into the Mexican market.

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Understanding on Positioning Subcategory & Groups

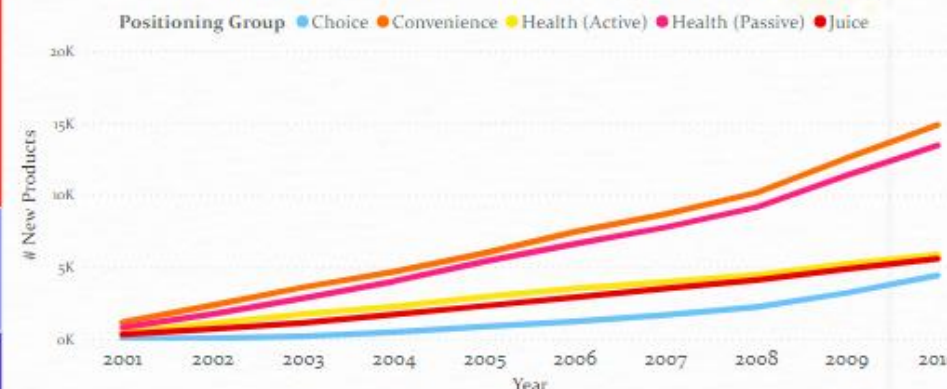


Understanding of Market-Subcategory

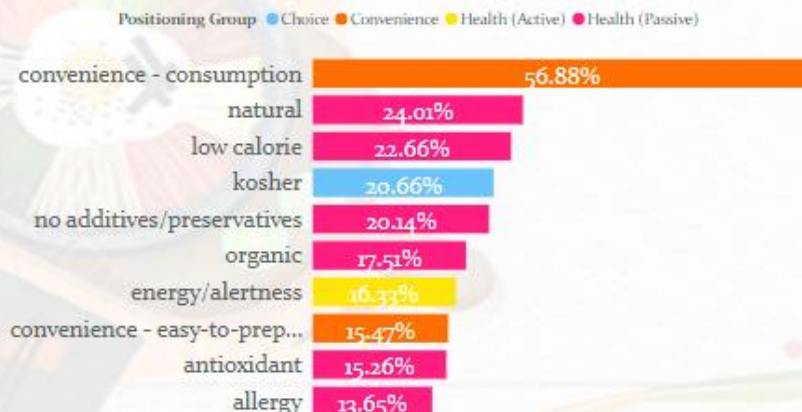
Popular Position Groups



New Product Launches Over Years (Cumulative View)



Popular Position Subcategories



- The ongoing evolution of dynamic lifestyles has led consumers to prioritize heightened convenience while retaining a commitment to nutrition. In their quest for easy-to-prepare options, consumers are reluctant to compromise on health objectives.
- This demand for convenience transcends home meal preparation, significantly influencing the choices of on-the-go food and beverages, particularly among those leading hectic lifestyles.
- A notable trend over the years is the increasing demand for sophisticated beverages, functional teas, coffees, and drink concentrates infused with ingredients designed to provide an additional boost of energy.
- Consumers are showing a preference for beverages that are natural, organic, and free from additives or preservatives.
- With a growing emphasis on enhancing passive health, whether through energy boosters, improvements in gut health, immunity support, cognitive function enhancement, or hydration, consumers actively seek products that incorporate specific functional ingredients with discernible health benefits.
- Consumers' commitment to ethical food choices is prompting them to seek out options that are labeled as "regenerative," "upcycled," and packaged sustainably.

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Understanding of Flavors and Flavor Groups

2006

2010

Products

11.56K

Flavors

435

Flavor Groups

22

Popular Flavor

Group

Fruit (130 flavors)

Flavor

Flavor Group

Flavors-1
Product

85

Flavors <=5
Products

201

Flavors >=100
Products

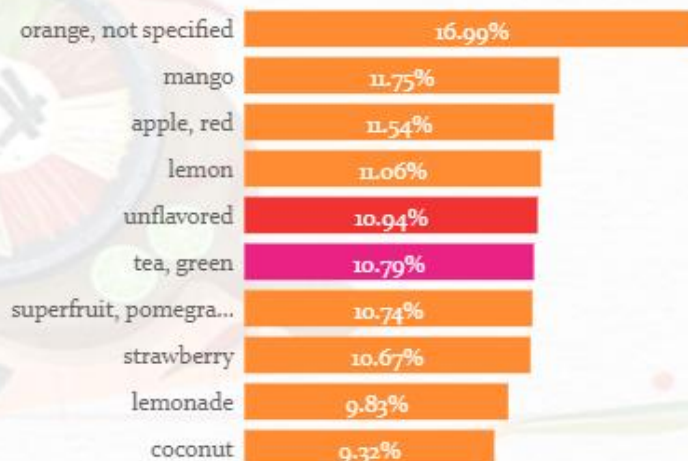
63

Popular Flavor Groups



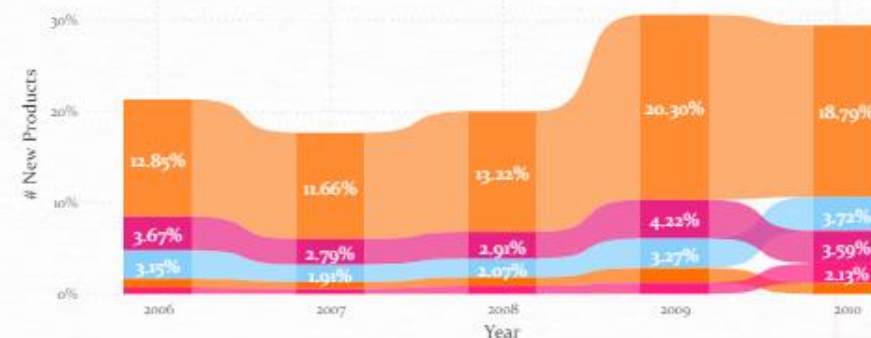
Emerging Flavors

Flavor_Group ● Fruit ● Tea ● Unflavored

Click to go to New
Product Launched
per FlavorsPrepared by
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Performance of Flavor Groups over years

Flavor_Group ● Brown Flavors ● Fruit ● Tea ● Unflavored ● Vegetable



- Preference for plant-based ingredients: Consumers favor plant-based options such as fruits, vegetables, pulses, seeds, and nuts as a nutritionally dense alternative to meat.
- Increasing demand for natural and sustainable flavors: Growing awareness of the health and environmental impact of synthetic ingredients is driving a rising demand for flavors that are natural and sustainable.
- Growth of fruit and botanical flavors: Consumers are leaning towards beverages that offer low calorie content, minimal to no added sugar or salt, devoid of synthetic ingredients, and feature tropical flavors, along with herbs and botanicals sourced from various corners of the world.
- Consumers are open to exploring novel culinary experiences, with a noticeable surge in the popularity of Italian, Chinese, and Japanese foods observed after 2006, especially evident in the widespread appeal of Asian packaged products across diverse consumer demographics.



Understanding of Flavors and Flavor Groups

2006

2010

Products

8630

Flavors

130

Flavor Groups

1

Popular Flavor Group
Fruit (130 flavors)

Flavor

Flavor Group

Flavors-1
Product

14

Flavors <=5
Products

36

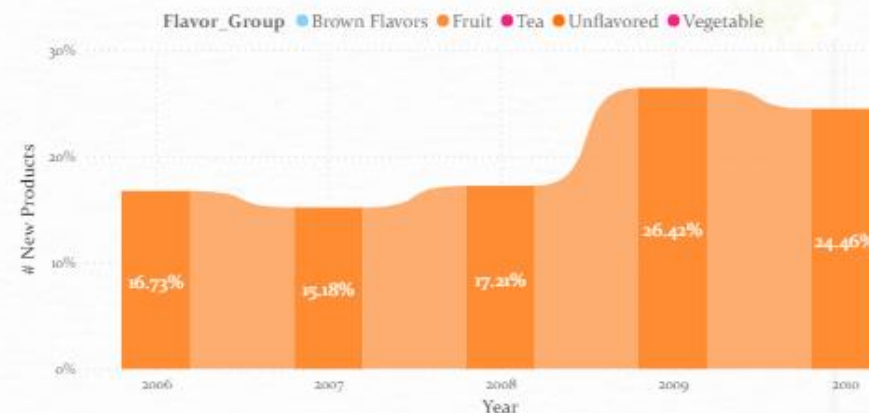
Flavors >=100
Products

39

Popular Flavor Groups

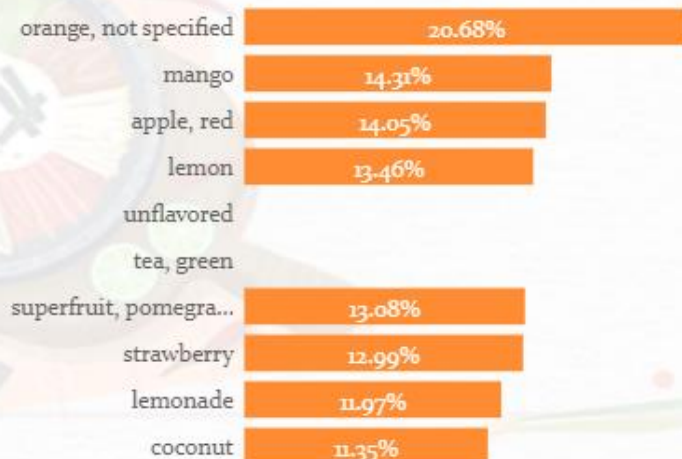


Performance of Flavor Groups over years



Emerging Flavors

Flavor_Group ● Fruit ● Tea ● Unflavored

[Click to go to New Product Launched per Flavors](#)Prepared by
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Flavor

All

Flavor_Group

All

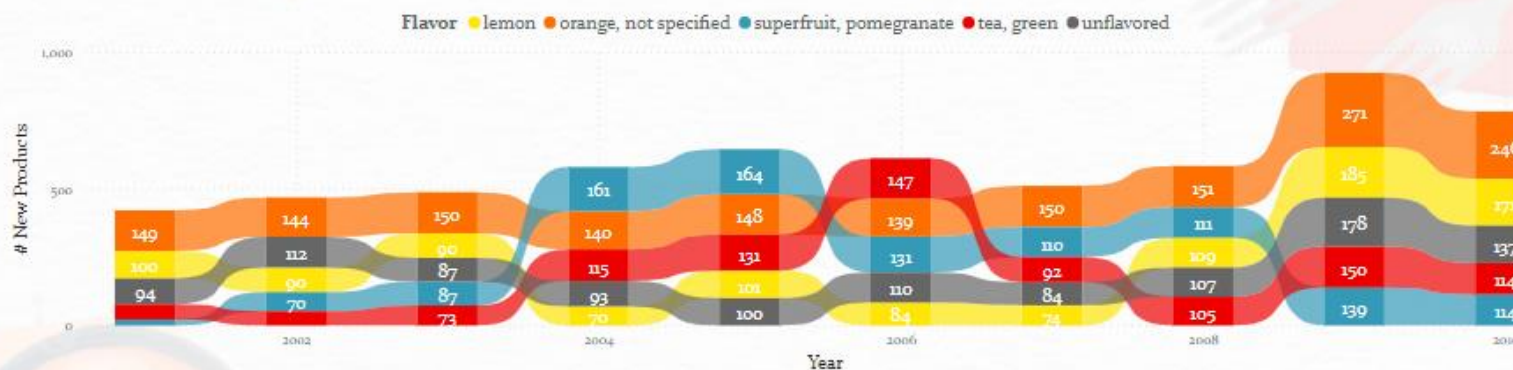
2001

2010

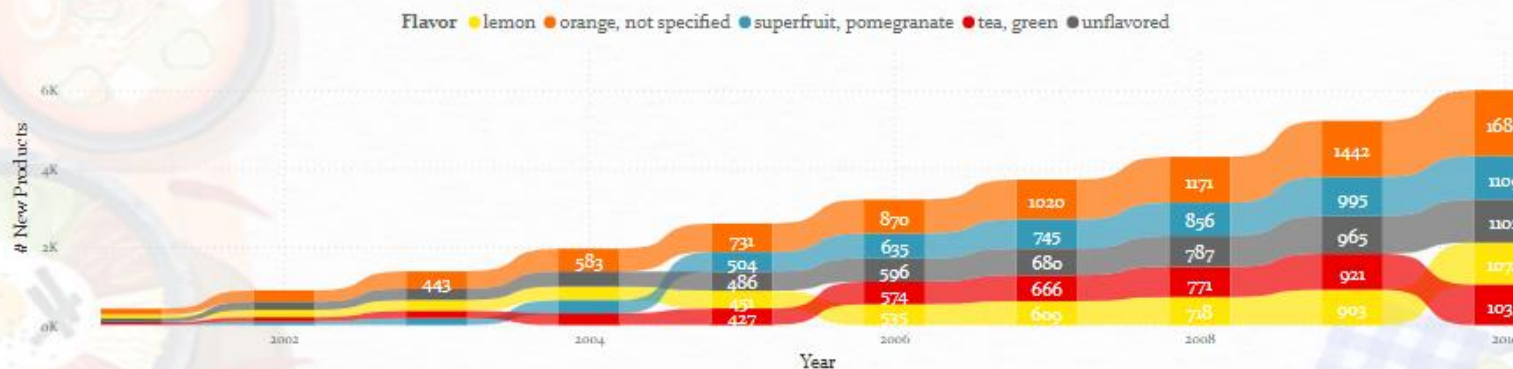
Products

19.66K

#New Product Launched Per Top 10 Flavors



#New Product Launched Per Top 10 Flavors (Cumulative View)



- Throughout the years, there has been a consistent increase in the launch of products featuring Orange and Pomegranate flavors.
- Up until 2005-2006, a substantial number of products were introduced with Pomegranate flavor. However, after 2006, there has been a noticeable decline in the introduction of products with this flavor.
- In 2009, there was a notable surge in product launches featuring Orange, Lemon, and Apple flavors.
- The fruit flavor group stands out as particularly popular, encompassing approximately 130 different flavors.
- Between the years 2006 and 2010, there were 118 flavors represented by only one product each, while 245 flavors were associated with no more than 5 products during that same period.
- Ginger, cinnamon, cardamom, and lemongrass have maintained popularity as spices over the years.
- In the last five years, wasabi has witnessed a surge in popularity and Turmeric has been gaining popularity since 2008.

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Understanding of Market-Subcategory

2001

2010

Flavor_Group

All

Market Subcategory

Juice & Juice Drinks

Market Share

34.17

Flavors-1 Product

81

Products

6718

Market Subcategories

1

Total Products Overall

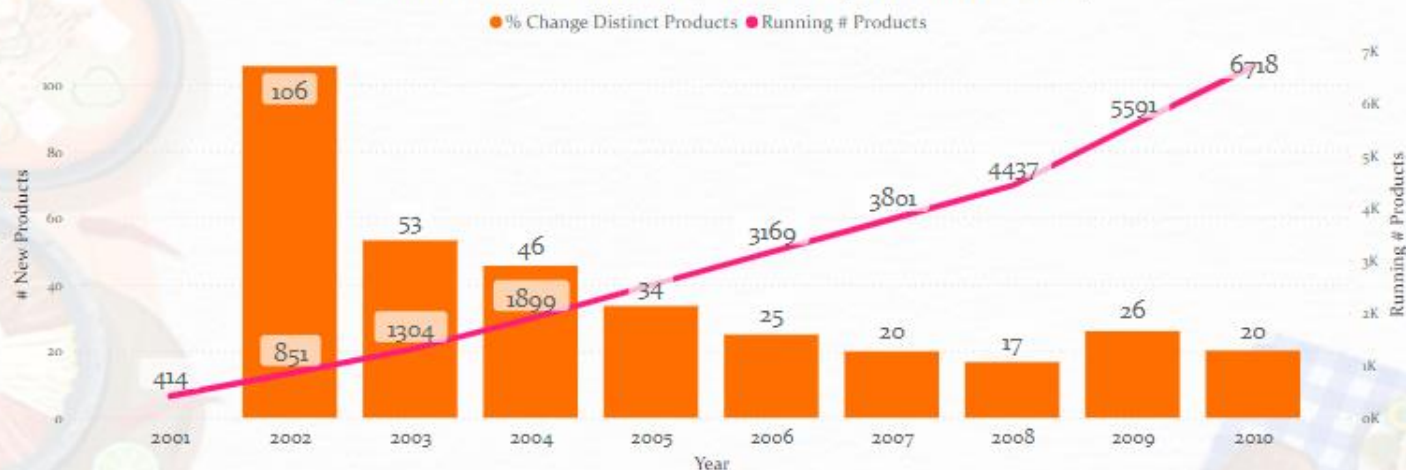
19662

| Flavor | 2001 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---------|------|------|------|------|------|------|------|------|------|
| acacia | | | | | | | | 1 | |
| avocado | | | | | | | | | 1 |
| barley | | | | | | 1 | | | |

Understanding of Flavors and SKU Optimization

Understanding on Positioning Subcategory & Groups

New Product Launches Over Years (Cumulative View)



- New product introductions comprised 25% from 2005 to 2006, witnessed a decline to 17% from 2006 to 2007, followed by an increase from 16% to 22% in 2009, only to return to 17% in 2010.
- Juice and juice drinks command a 36.18% share, followed by drink concentrates and mixes at 18.4%, and Iced tea at 10.41%.
- Carbonates, bottled water, and energy drinks collectively account for 25% of the market share.
- In the Juice and Juice Drinks Market subcategory, between 2001-2005, there are 15 flavors, including bilberry, eucalyptus, and rose, each associated with only one product.
- Between 2006-2010, there are 66 flavors within the Juice and Juice Drinks Market subcategory, each linked to only one product.

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Understanding of Market-Subcategory

2001

2005

Market Share

31.30

Flavors-1 Product

15

Products

2536

Market Subcategories

1

Total Products Overall

8103

Flavor_Group

All

Market Subcategory

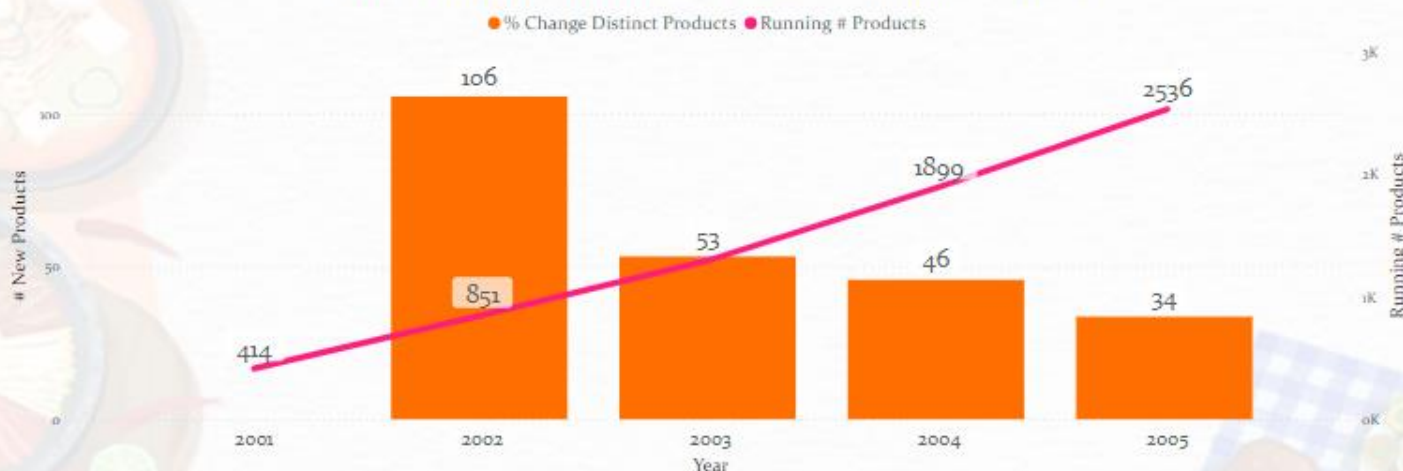
Juice & Juice Drinks

| Flavor | 2001 | 2003 | 2004 | 2005 |
|-----------------------|------|------|------|------|
| bilberry | | | | 1 |
| eucalyptus | | | | 1 |
| grains, not specified | | 1 | | |

Understanding of Flavors and SKU Optimization

Understanding on Positioning Subcategory & Groups

New Product Launches Over Years (Cumulative View)



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Understanding of Flavors and SKU Optimization

2006

2010

Flavors

155

Flavor Groups

15

Market Subcategory

Iced Tea

Flavors-1 Product

31

Products

1203

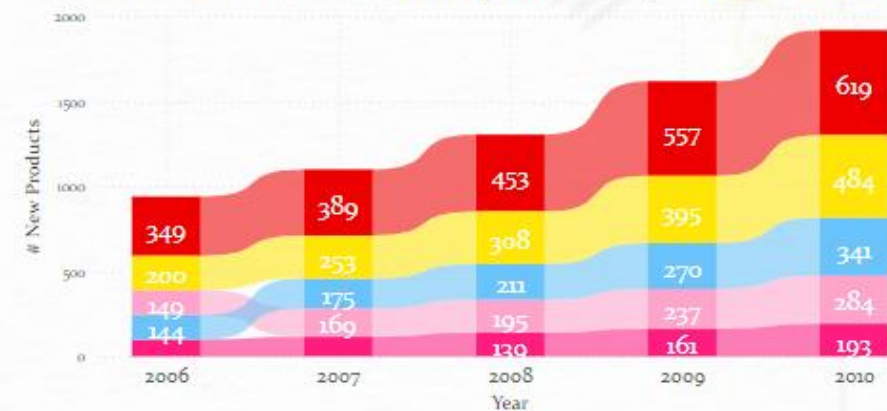
Market Share

10.41

Emerging Flavors



#New Product Launched Per Top 10 Flavors(Cumulative View)



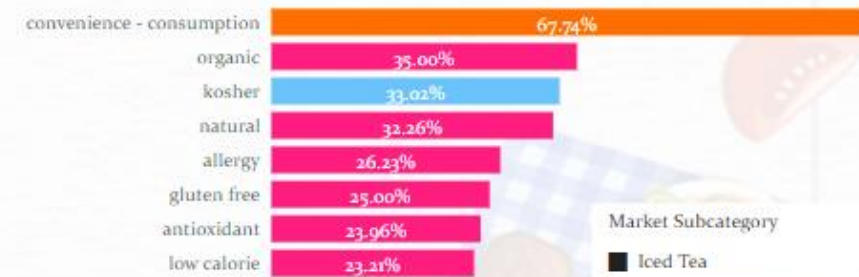
Flavor

2006 2007 2008 2009 2010

| | | | | | |
|-------------------|--|--|---|--|---|
| aniseed | | | | | 1 |
| balm, lemon | | | 1 | | |
| banana | | | 1 | | |
| bean, cocoa | | | 1 | | |
| beetroot | | | | | 1 |
| berry, elderberry | | | | | 1 |

Popular Position Subcategories

Positioning Group: Choice (blue), Convenience (orange), Health (Passive) (pink)



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- Green tea, lemon tea, white tea, and black tea have consistently held popularity in the iced tea category.
- Starting in 2006, peach-flavored tea has emerged as a trending choice.
- Between 2001 and 2005, there are 12 flavors, each associated with only one product. This trend continues with 31 flavors between 2006 and 2010, each having only one product.
- Consumers opt for iced tea due to its convenience and preference for natural, organic, low-calorie options with antioxidants, and devoid of additives and preservatives. It appears to be the primary choice for those seeking passive health benefits.

- From 2001 to 2010, the iced tea category boasts a diverse array of 175 flavors grouped into 17 distinct flavor categories, contributing to a product count of approximately 2137.
- Between 2006 and 2010, Iced tea captures a 10.41% market share, securing the 3rd position in the market landscape.

The background is a light gray textured surface with a thin brown border. It is decorated with various food and art-related illustrations. In the top left, there are red chili peppers and a green leaf. In the top center, there is a yellow glue stick with a brown label featuring a white 'E' and a small blue dot. In the top right, there is a red napkin with two silver forks and some yellow flowers. In the bottom left, there is a large illustration of a Korean meal including a bowl of soup, a large sizzling stone pot (dolsot) with a fried egg and various meats and vegetables, and two white plates with chopsticks. In the bottom right, there is a blue and white checkered tablecloth with a bowl of ramen, a bowl of colorful salad, a tomato slice, and a chocolate ice cream bar.

Thankyou

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