Food and Beverage Industry Analysis

BY Pasumarthi Sri Sreshta

Problem Statment

The objective of this Power BI project is to analyze survey responses from the food and beverage industry to gain insights into consumer behavior, preferences, and perceptions. The analysis will help identify key trends, understand brand perception, and explore potential areas for improvement in product offerings and marketing strategies.

Data Tables

Fact Table

Fact Table: fact_survey_responses

- **Response_ID:** Unique identifier for each survey response.
- **Respondent_ID:** Unique identifier for each respondent.
- **Consume_frequency:** Frequency of consumption of food and beverage products.
- **Consume_time:** Typical time when the products are consumed.
- **Consume_reason:** Reasons for consuming the products.
- **Heard_before:** Whether the respondent has heard of the product before.
- **Brand_perception:** Respondent's perception of the brand.
- **General_perception:** Overall perception of the food and beverage industry.
- **Tried_before:** Whether the respondent has tried the product before.
- **Taste_experience:** Respondent's experience with the taste of the product.
- **Reasons_preventing_trying:** Reasons preventing respondents from trying the product.
- **Current_brands:** Brands currently consumed by the respondent.
- **Reasons_for_choosing_brands:** Reasons for choosing specific brands.
- **Improvements_desired:** Improvements desired in products.
- **Ingredients_expected:** Expected ingredients in products.
- **Health_concerns:** Health concerns related to products.
- **Interest_in_natural_or_organic:** Interest in natural or organic products.
- **Marketing_channels:** Preferred marketing channels for product information.
- **Packaging_preference:** Preferences for product packaging.
- **Limited_edition_packaging:** Interest in limited edition packaging.
- **Price_range:** Preferred price range for products.
- **Purchase_location:** Typical locations where products are purchased.
- **Typical_consumption_situations:** Common situations in which products are consumed.

Response_ID	Respondent_ID	Consume_frequency	Consume_time	Consume_reason	Heard_before	Brand_perception	General_perception	Tried_before	Taste_experience	Reasons_preventing_trying	Current_brands
103191	120221	Rarely	Throughout the day	Increased energy and focus	No	Neutral	Not sure	No	3	Unfamiliar with the brand	Sky 9
103502	120532	Once a week	To stay awake during work/study	To combat fatigue	No	Neutral	Effective	No	3	Not available locally	Bepsi
103745	120775	Once a week	Before exercise	To boost performance	No	Neutral	Healthy	Yes	3	Not interested in energy drinks	Cola-Coka
103834	120864	2-3 times a week	To stay awake during work/study	To enhance sports performance	Yes	Neutral	Healthy	No	3	Health concerns	Gangster
103925	120955	Once a week	Before exercise	Other	No	Neutral	Effective	No	3	Unfamiliar with the brand	Gangster
104030	121060	2-3 times a month	For mental alertness	Increased energy and focus	No	Neutral	Effective	No	3	Not available locally	Cola-Coka
104089	121119	2-3 times a month	Throughout the day	Increased energy and focus	Yes	Neutral	Not sure	Yes	3	Health concerns	Bepsi
104173	121203	Once a week	To stay awake during work/study	To boost performance	No	Neutral	Dangerous	Yes	3	Not interested in energy drinks	Gangster
104287	121317	Once a week	To stay awake during work/study	To combat fatigue	No	Neutral	Not sure	No	3	Other	Cola-Coka
104433	121463	Rarely	Before exercise	To combat fatigue	No	Neutral	Not sure	Yes	3	Not available locally	Bepsi
104651	121681	Rarely	To stay awake during work/study	Increased energy and focus	No	Neutral	Not sure	Yes	3	Not available locally	Bepsi
104731	121761	2-3 times a week	To stay awake during work/study	Other	Yes	Neutral	Effective	Yes	3	Not available locally	Cola-Coka
104736	121766	2-3 times a week	Before exercise	Other	Yes	Neutral	Effective	No	3	Not interested in energy drinks	Blue Bull
104970	122000	Daily	To stay awake during work/study	Increased energy and focus	No	Neutral	Healthy	No	3	Other	Gangster
105255	122285	2-3 times a week	Before exercise	Other	No	Neutral	Not sure	Yes	3	Not available locally	Cola-Coka
105490	122520	2-3 times a month	To stay awake during work/study	To enhance sports performance	Yes	Neutral	Not sure	Yes	3	Health concerns	Cola-Coka
105694	122724	2-3 times a month	Before exercise	Increased energy and focus	Yes	Neutral	Dangerous	No	3	Health concerns	Cola-Coka
105705	122735	2-3 times a month	Before exercise	To combat fatigue	Yes	Neutral	Healthy	No	3	Not available locally	CodeX
106297	123327	2-3 times a month	Before exercise	Increased energy and focus	No	Neutral	Not sure	Yes	3	Not available locally	Sky 9
106332	123362	Once a week	Throughout the day	To combat fatigue	Yes	Neutral	Not sure	Yes	3	Not available locally	CodeX
106342	123372	2-3 times a month	Before exercise	Increased energy and focus	Yes	Neutral	Not sure	No	3	Not available locally	Cola-Coka
106525	123555	2-3 times a week	To stay awake during work/study	Increased energy and focus	No	Neutral	Healthy	Yes	3	Not interested in energy drinks	Sky 9
106638	123668	Daily	To stay awake during work/study	To boost performance	No	Neutral	Effective	Yes	3	Not available locally	CodeX
106898	123928	Once a week	For mental alertness	To boost performance	No	Neutral	Not sure	No	3	Not interested in energy drinks	Cola-Coka
107182	124212	Rarely	Before exercise	To enhance sports performance	Yes	Neutral	Dangerous	Yes	3	Health concerns	Bepsi
107237	124267	2-3 times a week	Before exercise	Increased energy and focus	No	Neutral	Not sure	No	3	Not interested in energy drinks	Sky 9
107281	124311	2-3 times a month	To stay awake during work/study	To enhance sports performance	No	Neutral	Dangerous	Yes	3	Not available locally	Cola-Coka
107406	124436	2-3 times a month	For mental alertness	To combat fatigue	Yes	Neutral	Not sure	No	3	Unfamiliar with the brand	Cola-Coka
107522	124552	2-3 times a week	To stay awake during work/study	To boost performance	Yes	Neutral	Healthy	No	3	Unfamiliar with the brand	CodeX
107654	124684	2-3 times a week	Before exercise	Other	No	Neutral	Not sure	No	3	Other	Cola-Coka
107826	124866	2-3 times a week	Before exercise	To enhance sports performance	No	Neutral	Dangerous	Yes	3	Unfamiliar with the brand	Bepsi
107847	124877	Daily	To stay awake during work/study	To combat fatigue	No	Neutral	Effective	Yes	3	Not interested in energy drinks	Gangster
107866	124896	2-3 times a week	To stay awake during work/study	To enhance sports performance	No	Neutral	Effective	Yes	3	Other	Bepsi
107876	124906	2-3 times a week	Before exercise	To enhance sports performance	No	Neutral	Healthy	Yes	3	Other	Cola-Coka
107899	124929	Rarely	For mental alertness	Other	No	Neutral	Healthy	No	3	Not interested in energy drinks	Others
107910	124940	Daily	For mental alertness	To enhance sports performance	No	Neutral	Healthy	Yes	3	Not interested in energy drinks	Gangster
107985	125015	2-3 times a month	To stay awake during work/study	To combat fatigue	No	Neutral	Healthy	No	3	Not available locally	Bepsi

Dimension Tables

Dimension Table: dim_respondent

- **Respondent_ID:** Unique identifier for each respondent.
- **Name:** Name of the respondent.
- **Age:** Age of the respondent.
- **Gender:** Gender of the respondent.
- **City_ID:** Identifier linking the respondent to a city.

Respondent_ID	Name	Age	Gender	City_ID
120043	Kimaya Borde	19-30	Male	CT113
120059	Sana Bumb	19-30	Male	CT113
120076	Ryan Dasgupta	19-30	Male	CT113
120080	Sana Mand	19-30	Male	CT113
120090	Rasha Bhavsar	19-30	Male	CT113
120092	Baiju Sane	19-30	Male	CT113
120095	Darshit Sami	19-30	Male	CT113
120096	Advika Borah	19-30	Male	CT113
120102	Mannat Chaudry	19-30	Male	CT113
120104	Riya Sengupta	19-30	Male	CT113
120108	Anaya Das	19-30	Male	CT113
120124	Tiya Kumar	19-30	Male	CT113
120131	Emir Mann	19-30	Male	CT113
120141	Inaaya Zachariah	19-30	Male	CT113

Dimension Table: dim_cities

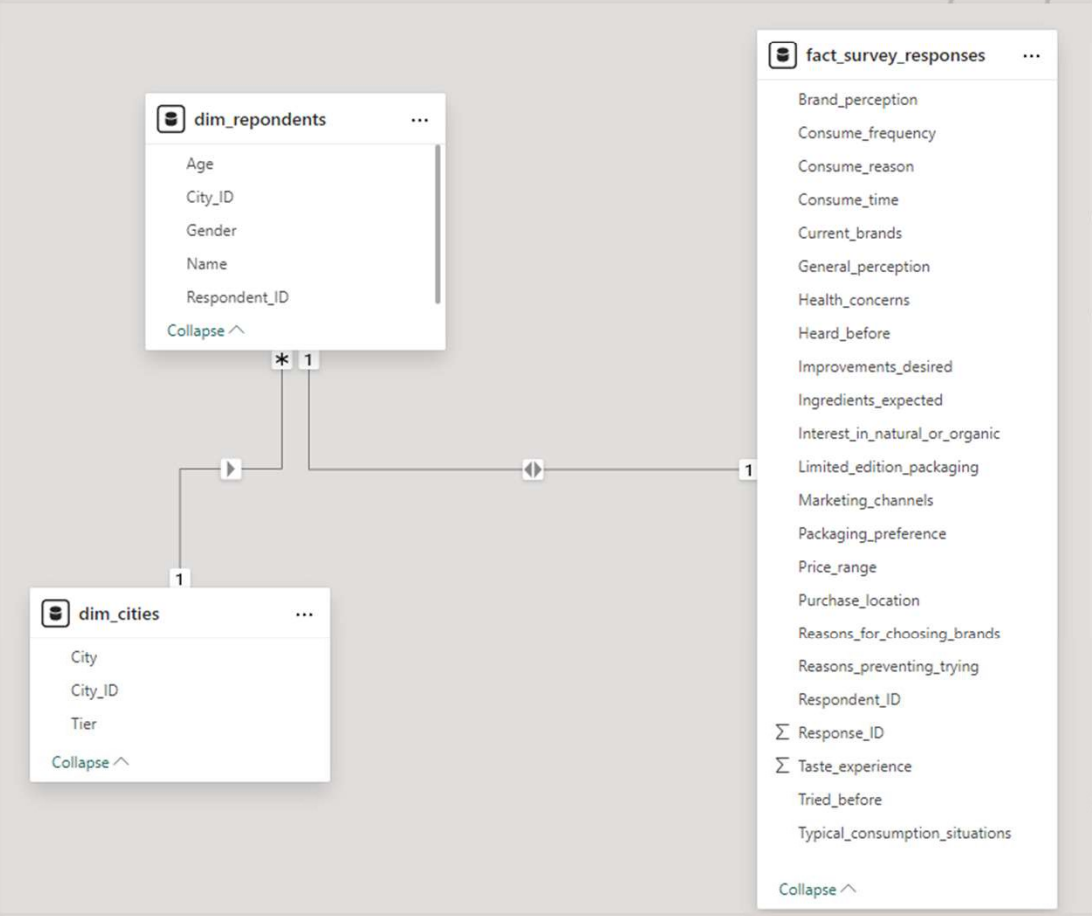
- **City_ID:** Unique identifier for each city.
- **City:** Name of the city.
- **Tier:** Tier classification of the city (e.g., Tier 1, Tier 2).

City_ID	City	Tier
CT111	Delhi	Tier 1
CT112	Mumbai	Tier 1
CT113	Bangalore	Tier 1
CT114	Chennai	Tier 1
CT115	Kolkata	Tier 2
CT116	Hyderabad	Tier 1
CT117	Ahmedabad	Tier 2
CT118	Pune	Tier 2
CT119	Jaipur	Tier 2
CT120	Lucknow	Tier 2

Transforming Data

- Verified that all data types are correctly aligned with their respective columns.
- Removed duplicate entries.
- For the dim_cities table: Set the first row as headers.
- Checked column quality and reviewed the column profile.

Creating Relationship between Tables



Data Visualization

Respondent Count

10000

Total Number of Respondents

10000

Current Brands

7

Average of Taste experience

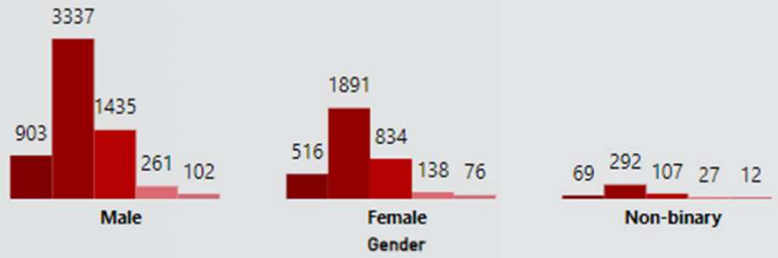
0.00 3.28 6.56

Cities

Ahmedab... | Bangalore | Chennai | Delhi | Hyderabad | Jaipur | Kolkata | Lucknow | Mumbai | Pune

Gender trends by Age

Age ● 15-18 ● 19-30 ● 31-45 ● 46-65 ● 65+

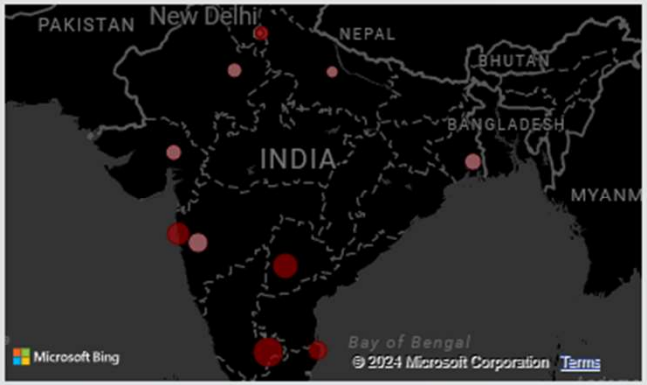


Age

All

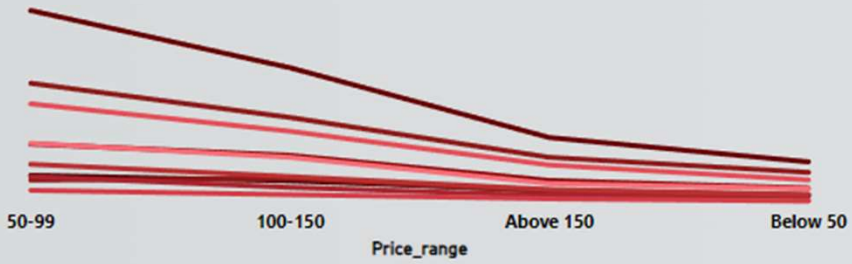
Geographic Consumption Patterns

Tier ● Tier 1 ● Tier 2



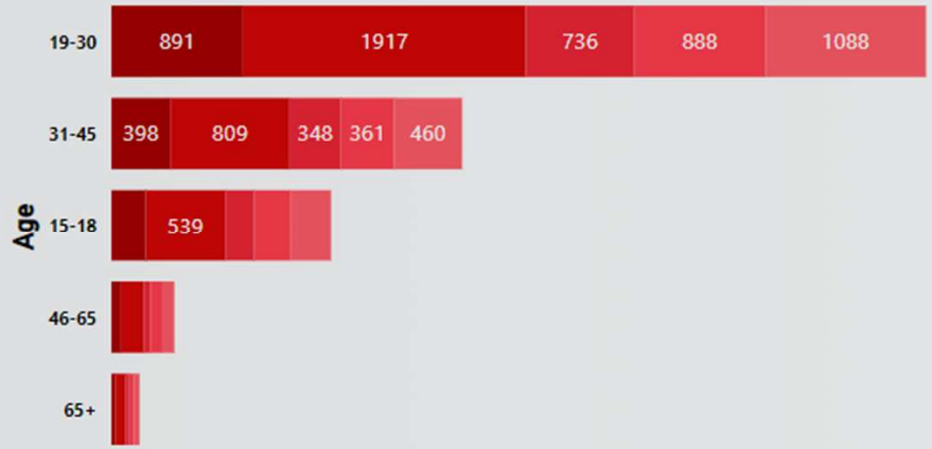
Relationship Between Price Range and Consumption Frequency

City ● Ahmedabad ● Bangalore ● Chennai ● Delhi ● Hyderabad ● Jaipur ● Kolkata ● Lucknow



Consumption Trends by Age

Consume_frequency ● 2-3 times a month ● 2-3 times a week ● Daily ● Once a week ● Rarely



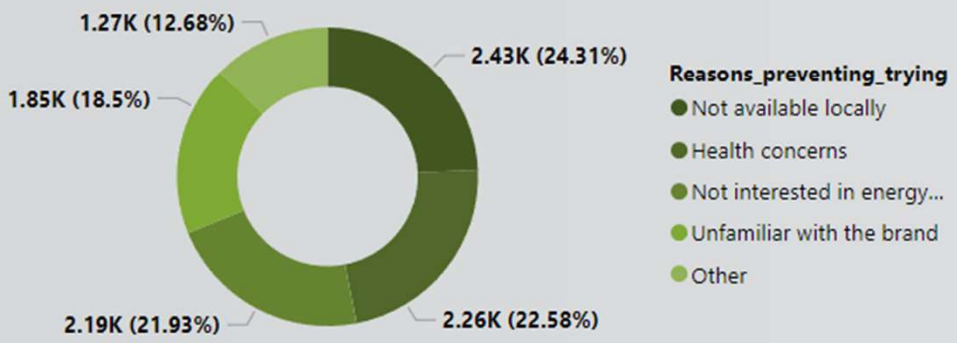
Consume Situation

Other	Driving/commuting	Sports/exercise	Studying/working late	Social outings/parties

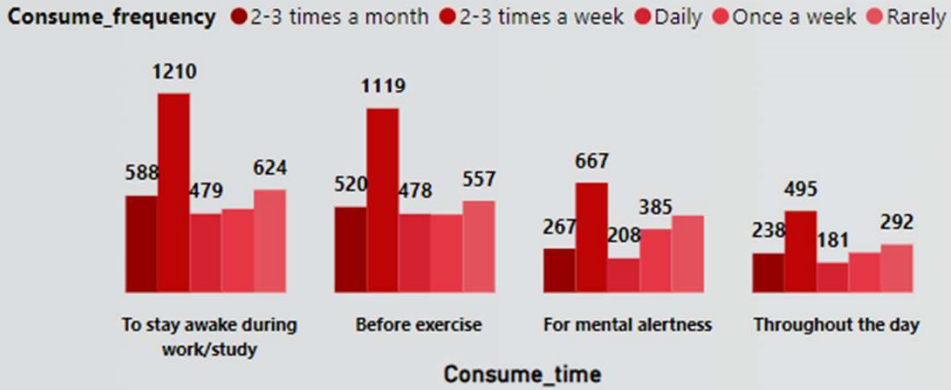
Consume Frequency

2-3 times a week	Rarely	2-3 times a...	Once a week	Daily

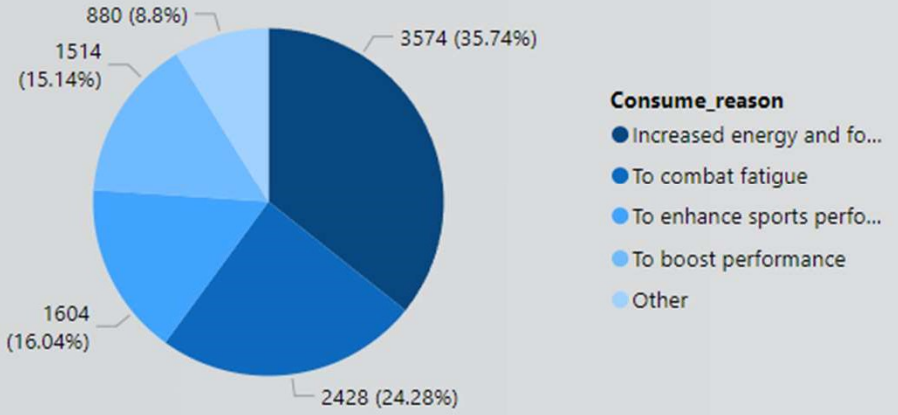
Reasons Preventing Trials



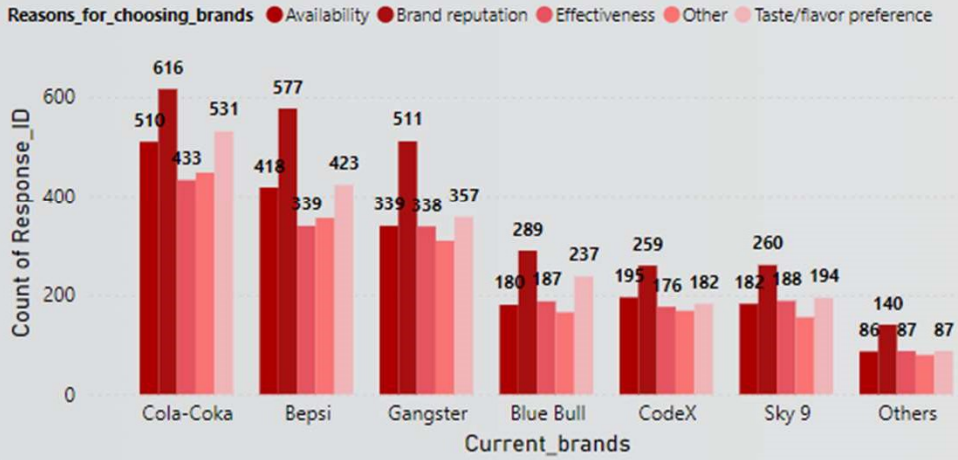
Frequency and Time of Consumption



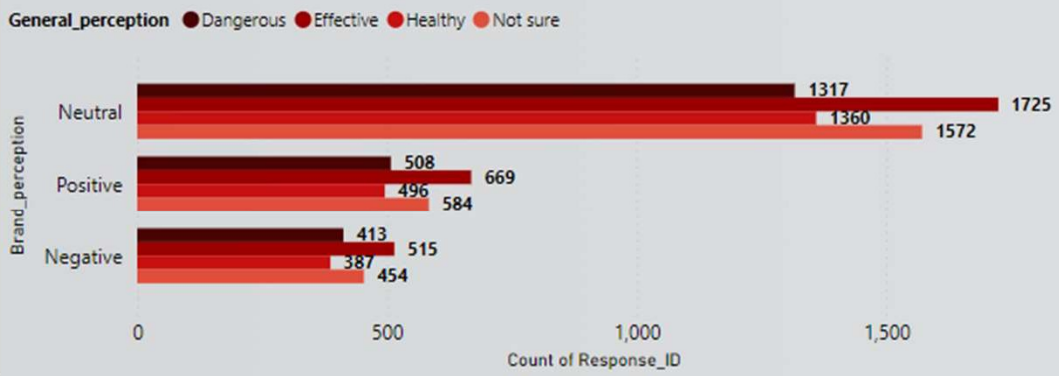
Consumption Reasons



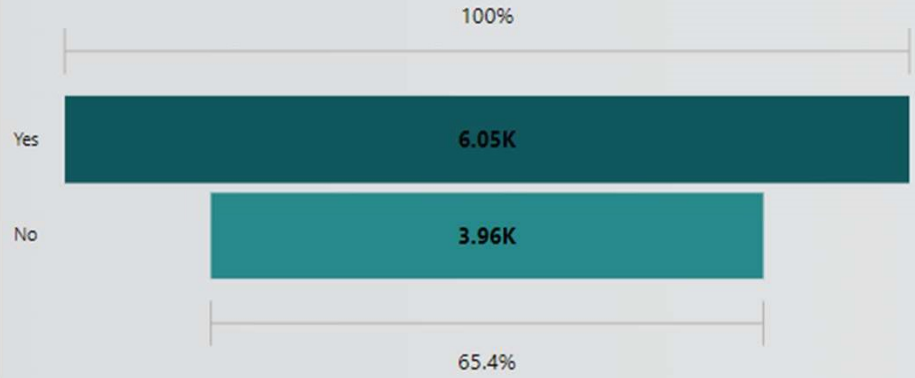
Current Brands and Brand Selection Criteria:



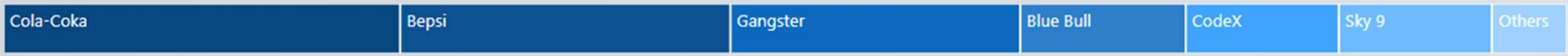
Brand Perception vs. General Perception



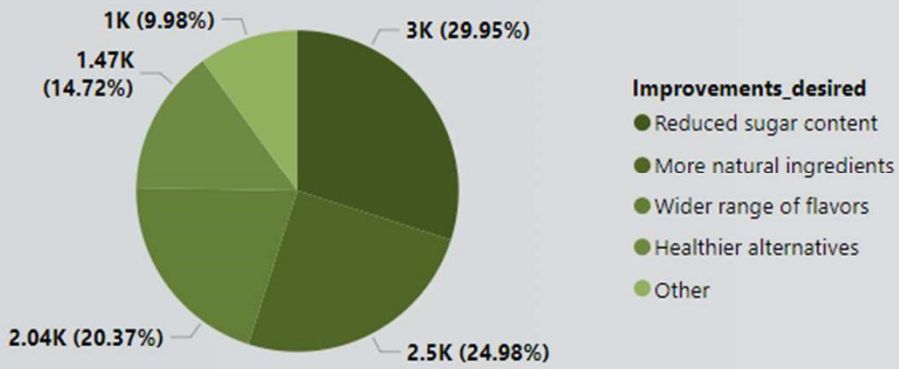
Health Concerns



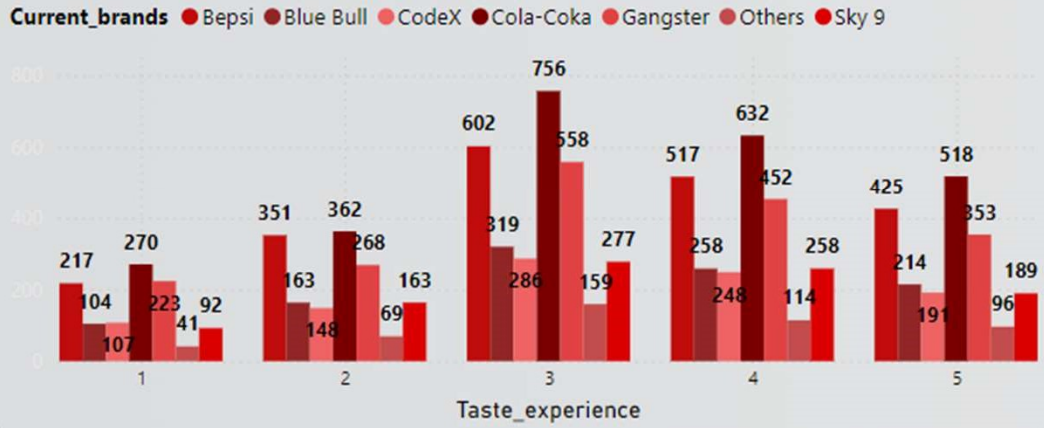
Current Brands



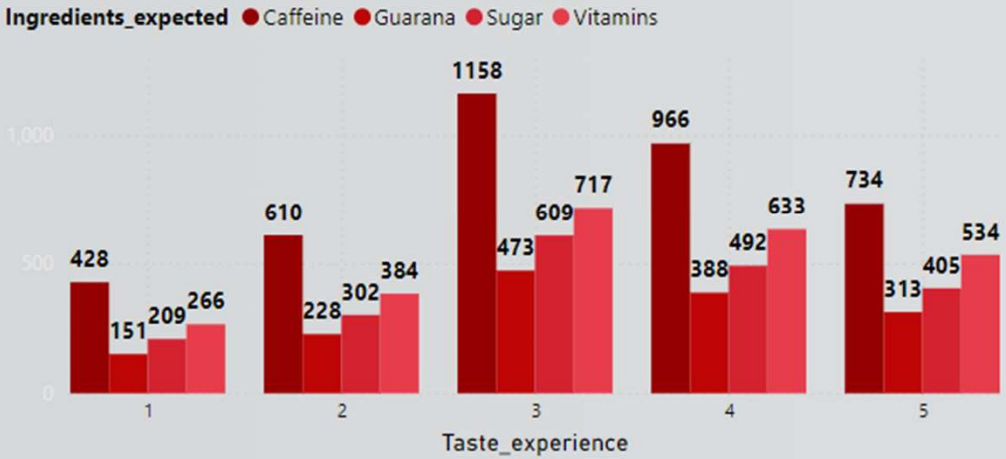
Desired Improvements



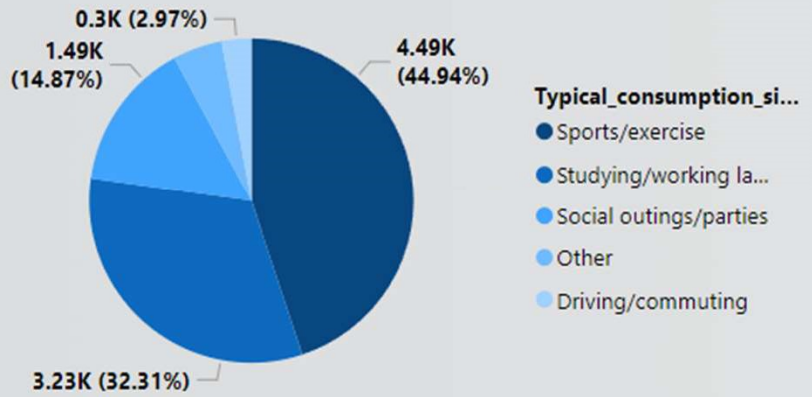
Distribution of Taste Experience Ratings



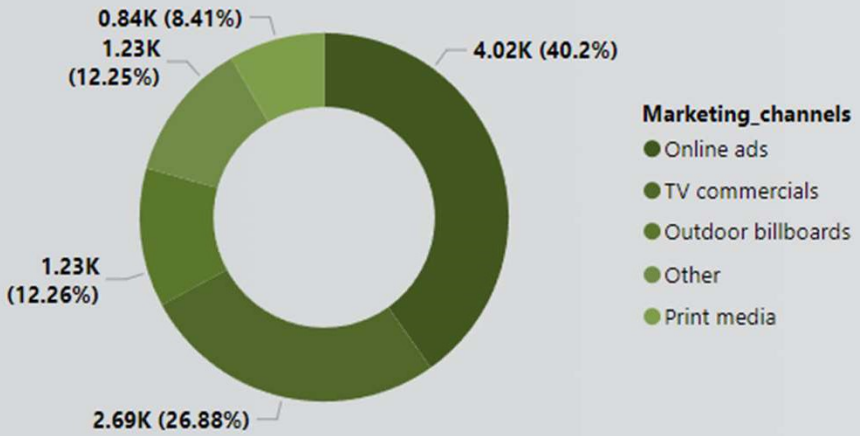
Expected Ingredients and Taste Experience



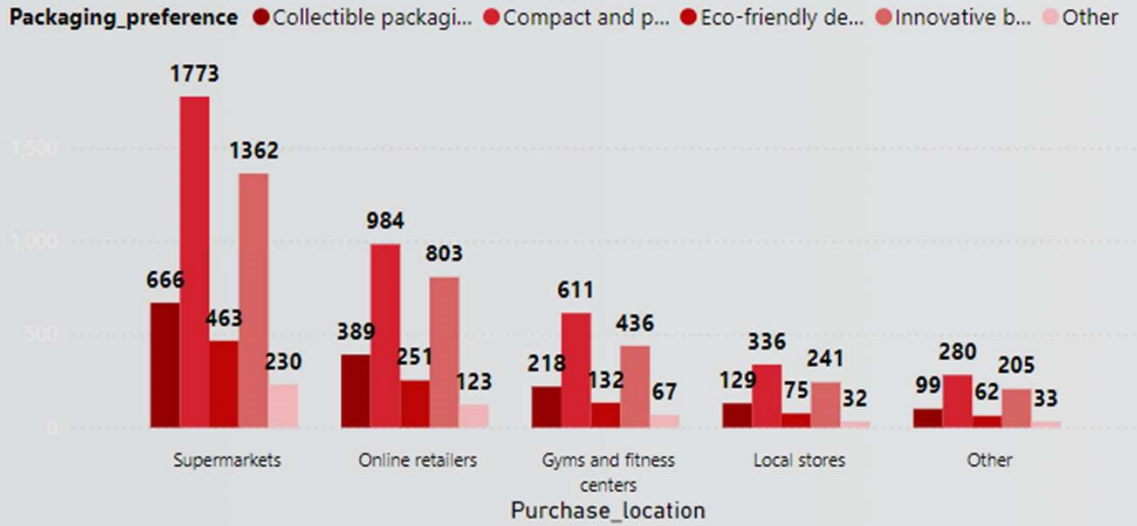
Typical Consumption Situations



Preferred Marketing Channels



Purchase Location and Packaging Preferences



Insights

1. Total Number of Respondents:
   - The survey gathered responses from a total of 10,000 respondents

2. Average Brand Perception:
   - The average perception of the brand is Cola-Coka, indicating overall sentiment towards the brand among consumers.

3. Most Common Consumption Situation:
   - The most frequent situation in which respondents consume food and beverage products is during Sports/exercise.

4. Interest in Natural or Organic Products:
   - 49.83% of respondents expressed interest in purchasing natural or organic products, indicating a strong trend towards healthier options.

5. Top Reason for Choosing Brands:
   - The most common reason for choosing specific brands is Brand reputation,

6. Preferred Price Range:
   - The average preferred price range for food and beverage products is 50-90.

7. Packaging Preferences:
   - Respondents prefer "Compact and portable cans" packaging, reflecting what consumers expect in product design.

Insights

8. Interest in Limited Edition Packaging:
- A significant 39.46% of respondents expressed interest in limited edition packaging.

9. Top Ingredient Expectations:
- Consumers expect *caffeine* in the products they purchase, which aligns with current trends in health-conscious consumption.

10. Taste Experience:
- The majority of respondents reported a "3" rating taste experience with the products they've tried, contributing to brand loyalty.

11. Health Concerns:
- 60.45% of respondents mentioned health concerns related to food and beverage products.

12. Marketing Channels:
- The preferred marketing channel for receiving product information is Online ads.

13. Typical Purchase Location:
- Respondents commonly purchase products from Supermarkets.

14. Frequency of Consumption Across Price Ranges:
- A trend shows that 2-3 times a week consumption frequency correlates with 50-90 price ranges, indicating price sensitivity among respondents.

Thank You