Food and Beverage Industry Analysis in Power-BI

Mentorness Task 3

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Agenda

- Familiarising with Data
- Current Task
- Data Modeling
- Data Cleaning
- Data Analysis
- Data Visualization
- Insights
- Conclusion

Raw Data

City

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

Respondents

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
120145	Nehmat Samra	19-30	Male	CT113
120168	Damini Taneja	19-30	Male	CT113

Raw Data

Survey Responses

Response_ID	Respondent_ID	Consume_frequency	Consume_time	Consume_reason	Heard_before	Brand_perception	General_perception	Tried_before	Taste_experience	Reasons_preventing_trying
103191	120221	Rarely	Throughout the day	Energy	No	Neutral	Not sure	No	3	Unfamiliar brand
103502	120532	Weekly	During work/study	Fatigue	No	Neutral	Effective	No	3	Not available
103745	120775	Weekly	Before exercise	Performance	No	Neutral	Healthy	Yes	3	Not interested
103834	120864	Bi-weekly	During work/study	Performance	Yes	Neutral	Healthy	No	3	Health concerns

Current_brands	Reasons_for_choosing_brands	Improvements_desired	Ingredients_expected	Health_concerns	Interest_in_natural_or_organic	Marketing_channels	Packaging_preference	Limited_edition_packaging
Sky 9	Brand reputation	Healthier alternatives	Sugar	No	Yes	Online ads	Compact,portable	Yes
Bepsi	Other	Other	Vitamins	Yes	Not Sure	Online ads	Compact,portable	No
Cola-Coka	Other	Reduced sugar	Sugar	Yes	Yes	Online ads	Compact,portable	No
Gangster	Brand reputation	Reduced sugar	Sugar	Yes	Yes	Online ads	Compact,portable	Not Sure

Price_range	Purchase_location	Typical_consumption_situations
50-99	Supermarkets	Exercise
50-99	Supermarkets	Exercise
Below 50	Supermarkets	Exercise
100-150	Supermarkets	Exercise

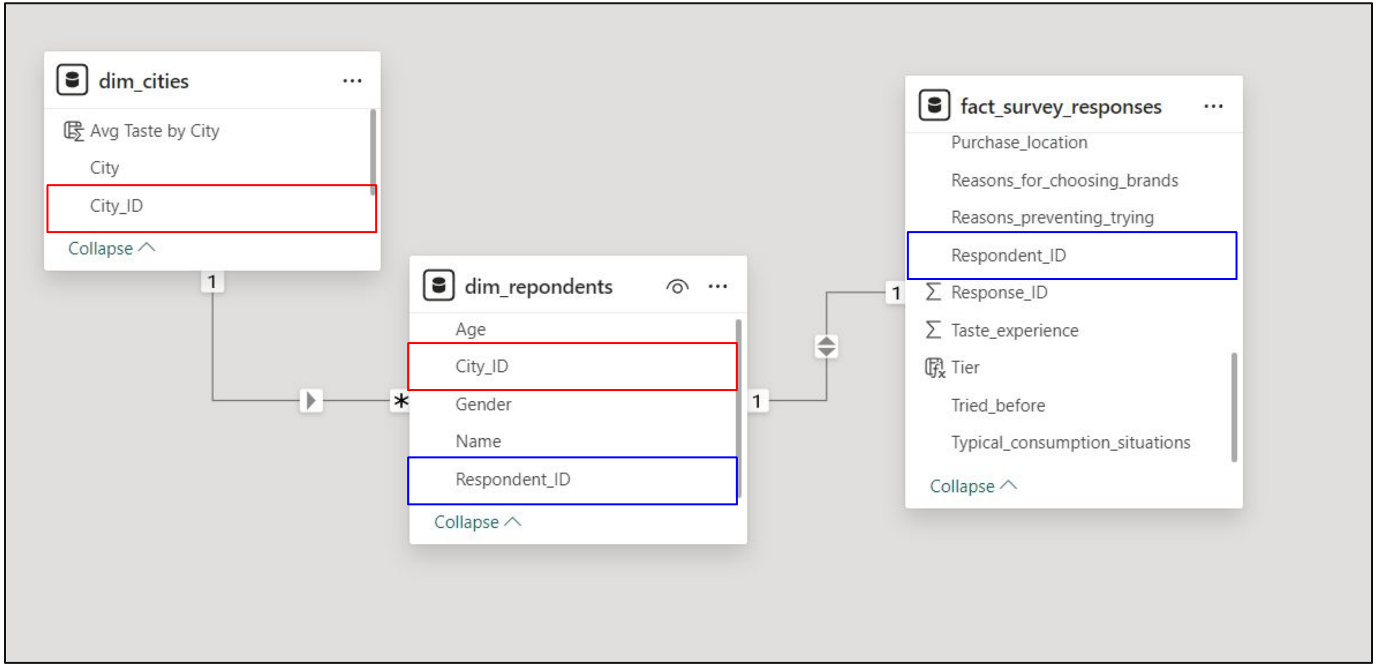
Key Observations

- Two Dimensions and one Fact table
- Dimension Tables: City, Respondents
- Fact Table: Survey Responses
- Data-type of most variables: Categorical
- City connected with Respondents: One-Many
- Respondents connected with Survey Responses: One-One

Task at Hand

- To identify key trends
- To understand brand perception
- To explore potential areas for improvement in product offerings, marketing strategies.

Data Modeling

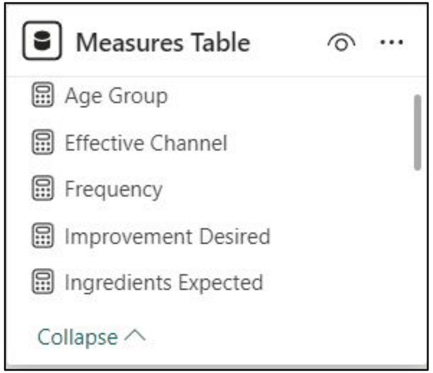


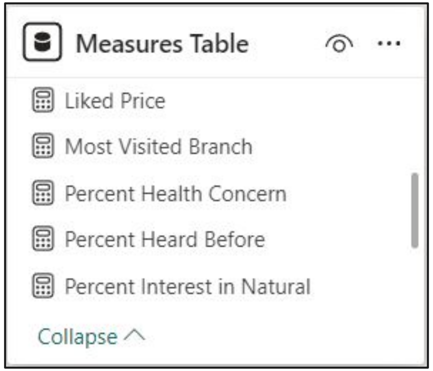
Data Cleaning

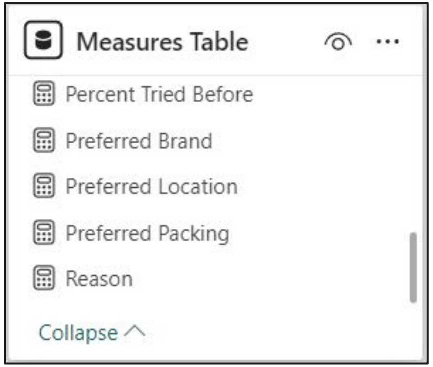
- Checking Data-type of every variable
- Checking for Duplicate values (Respondent ID)
- Checking for Null values
- Modifying variable names (To boost performance -> Performance, 2-3 times a Week-> Bi-Weekly, etc)

Data Analysis

- Adding City, Tier, Age and Gender columns to Fact table (Denormalization).
- Creating a separate Measures table.



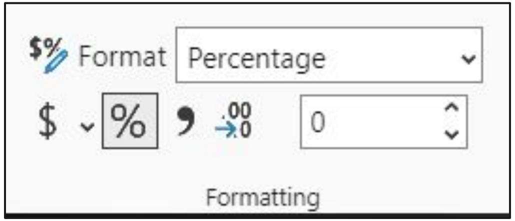




Data Analysis

- Measures: Categorical and Numerical
- **Numerical:** Calculating percentage composition among the total.

```
1 Percent Health Concern = DIVIDE(CALCULATE(COUNTROWS(fact_survey_responses),fact_survey_responses[Health_concerns]="Yes"),COUNTROWS
  (fact_survey_responses))
```



Data Analysis

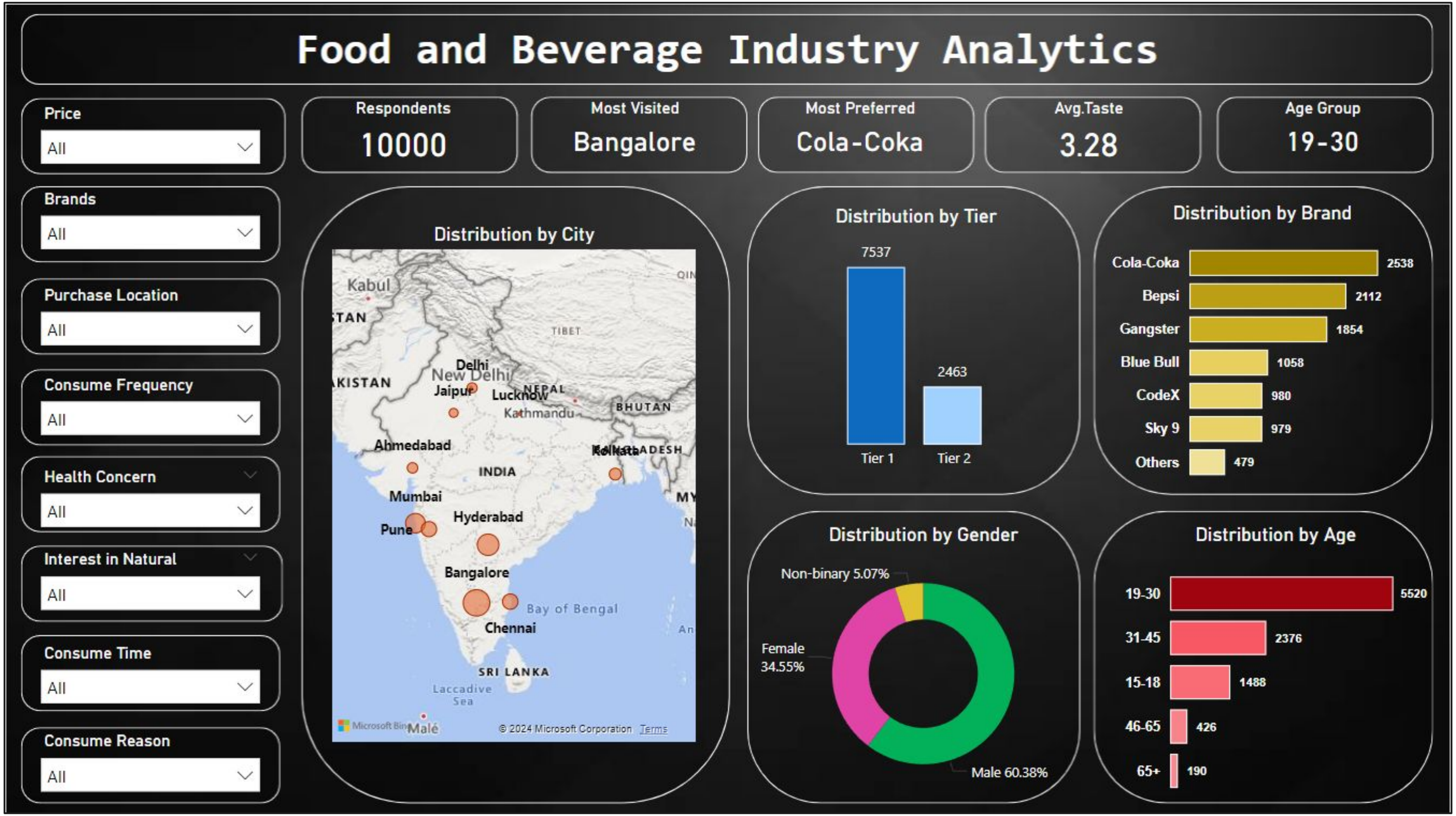
Categorical: Identifying labels corresponding to maximum count.

```
Preferred Location =
VAR CategoryCountTable =
    SUMMARIZE(
        fact_survey_responses,
        fact_survey_responses[Purchase_location],
        "Count", COUNTROWS(fact_survey_responses)
    )
VAR MaxCount = MAXX(CategoryCountTable, [Count])
RETURN
    MAXX(
        FILTER(CategoryCountTable, [Count] = MaxCount),
        fact_survey_responses[Purchase_location]
    )
```

Data Visualization

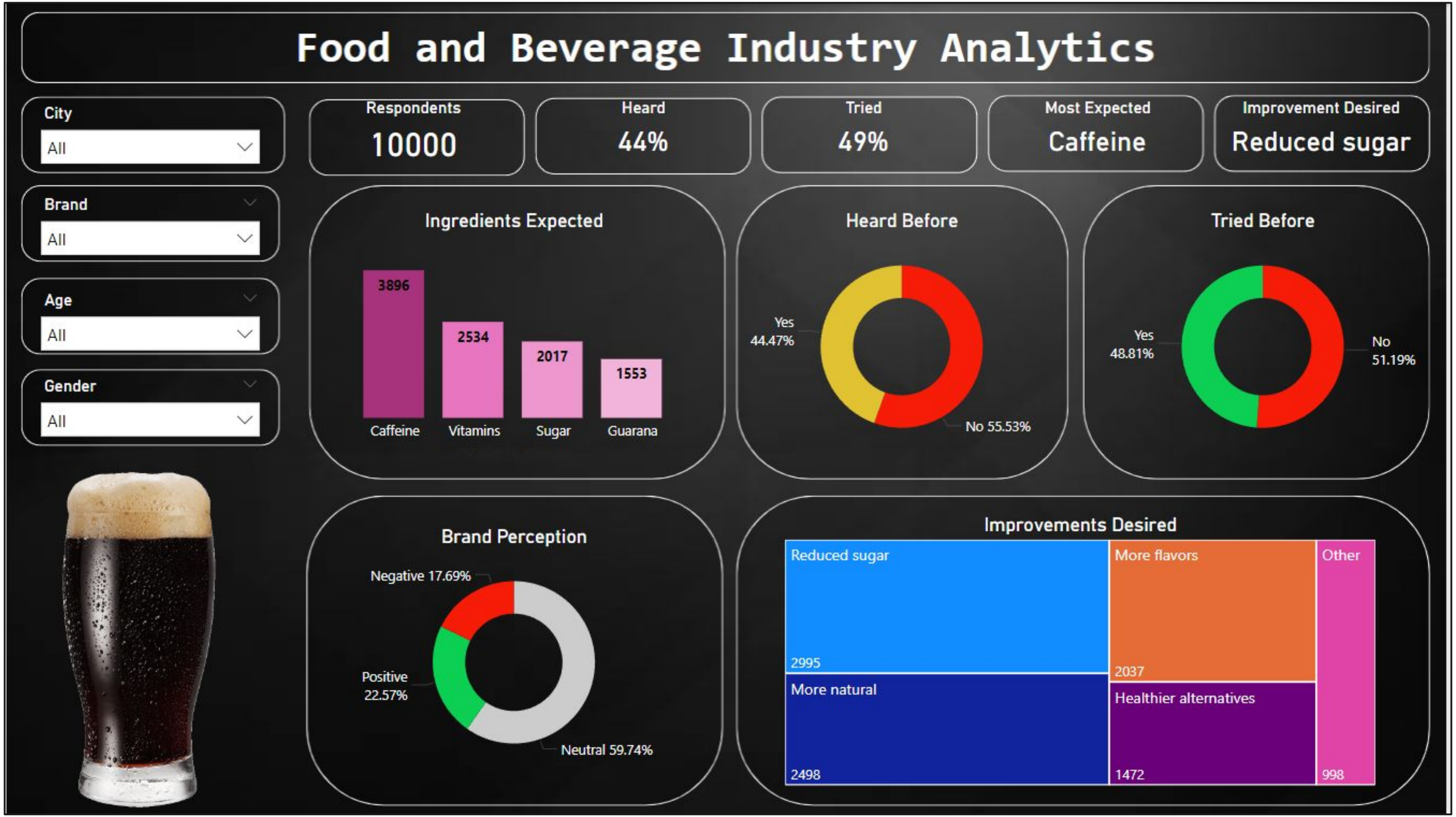
- Layout: 4 Reports
- **Overview:** Analysing Cities, Brands, Age Groups, Tiers
- **Product Information:** Analysing product preference among respondents.
- **Consumption Pattern:** Identifying trends and analysing consumer behaviour.
- **Marketing Strategy:** Analysing different marketing strategies and assessing their effectiveness.
- Elements: Cards, Slicers, Bar-charts, Doughnut Charts, Tree Map, Choropleth Map

Overview

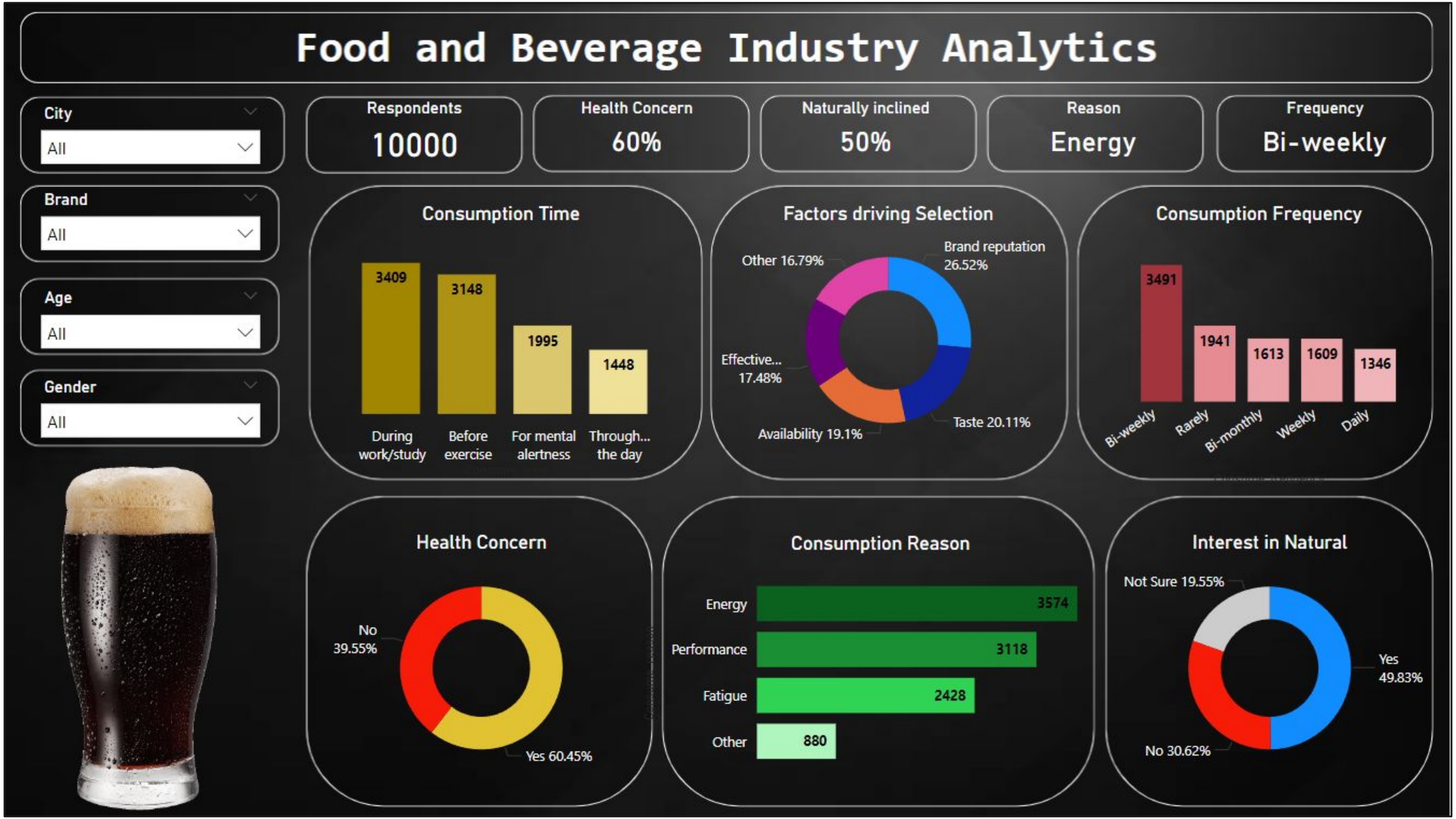


Food and Beverage Industry Analytics
Price
All
Brands
All
Purchase Location
All
Consume Frequency
All
Health Concern
All
Interest in Natural
All
Consume Time
All
Consume Reason
All
Respondents
10000
Most Visited
Bangalore
Most Preferred
Cola-Coka
Avg.Taste
3.28
Age Group
19-30
Distribution by City
Distribution by Tier
7537
2463
Tier 1
Tier 2
Distribution by Brand
Cola-Coka 2538
Bepsi 2112
Gangster 1854
Blue Bull 1058
CodeX 980
Sky 9 979
Others 479
Distribution by Gender
Non-binary 5.07%
Female 34.55%
Male 60.38%
Distribution by Age
19-30 5520
31-45 2376
15-18 1488
46-65 426
65+ 190

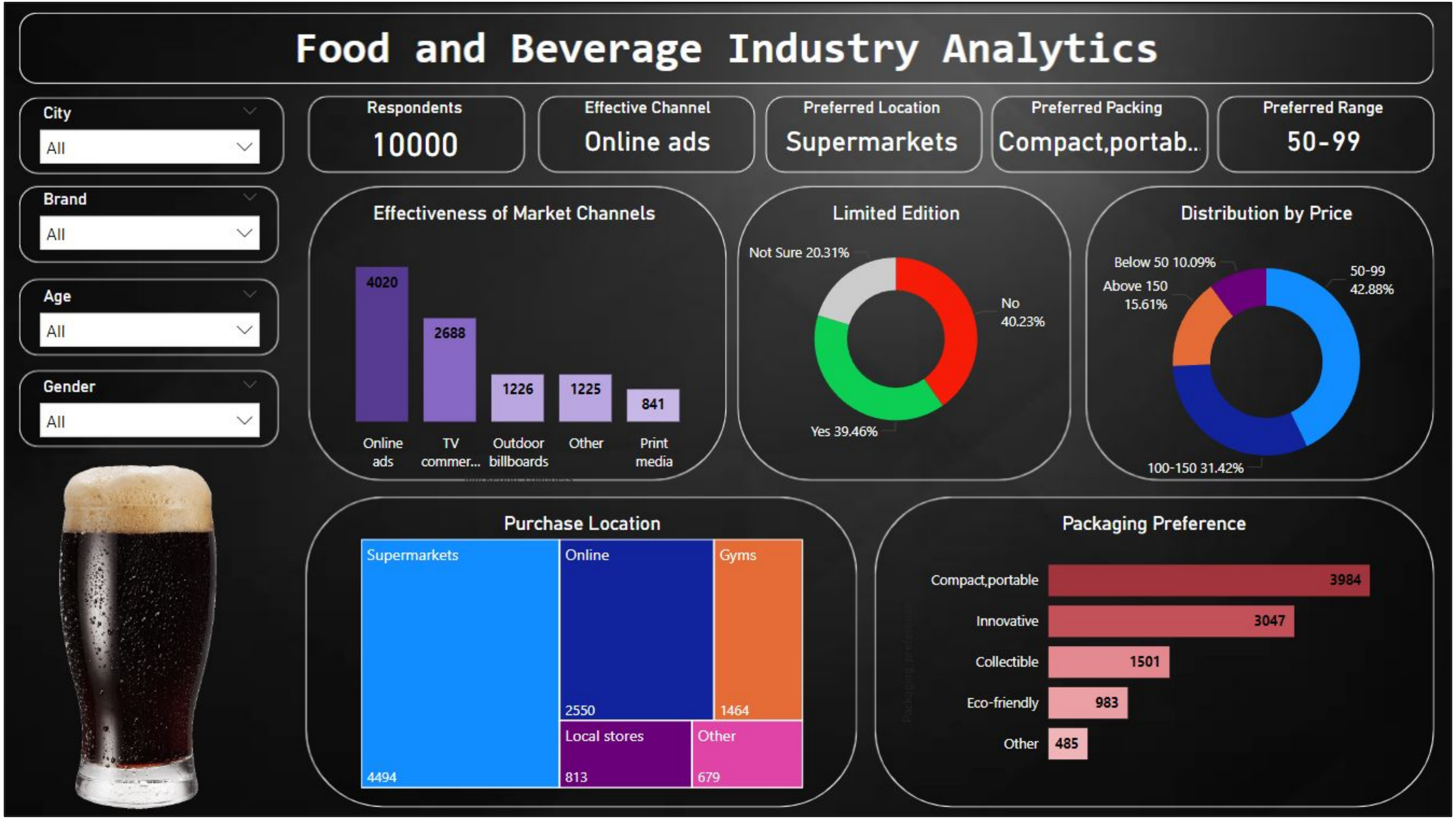
Product Information



Consumption Pattern



Marketing Strategy



Insights:Demographics

- 75% of Respondents are from Tier 1.
- 55% belong to the age-group of 19-30.
- 60% of respondents showing interest in beverages are Males.
- Bangalore in Tier 1 and Pune in Tier 2 have high respondents.

Insights:Product Information

- Brand reputation: Major factor driving beverage selection.
- Cola-Coka(25%) is most popular among respondents followed by Bepsi(21%).
- Caffeine: Most expected ingredient
- Reduced Sugar: Most desired improvement.
- 45% have heard out of which 50% have actually tried the beverage.
- Most of the respondent have neutral perception towards brands.

Insights:Consumption Pattern

- 65% consume for increasing energy and improving performance required during work, study or before exercise.
- Around 35% consume 2-3 times in a Week.
- Daily: Chennai, Delhi, Jaipur; Weekly: Hyderabad
- Bi-weekly: Mumbai, Pune, Bangalore.
- Men: increasing energy, Women: combating fatigue, improving performance.
- 60% are health concerned.
- 50% have shown interest in natural and organic product.

Insights:Marketing Strategies

- Online Ads: Most effective for Southern Cities.
- TV-Commercials:Most effective for Northern Belt.
- 45% respondents prefer to buy from Supermarkets.
- 50-99 is the preferred price range.
- Being compact and portable is most seen factor in terms of packaging.

Recommendations

- **Target Consumer:** Youth from Tier 1 Cities.
- **Target Locations:**
  - Mumbai, Pune, Delhi, Jaipur, Bangalore, Chennai
  - Stock audit on daily and weekly basis w.r.t branches.
- **Product Goals:**
  - Variety in existing flavours with increased Caffeine, reduced Sugar.
  - Increase brands of healthy, natural energy drinks
- **Marketing Goals:**
  - Simple packaging with affordable price.
  - Online Reach: Social Media Ads, Commercials of Supermarket chains.

Thank You