



# **Food and Beverage Industry Analysis in Power-BI**



# 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
Capetor	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

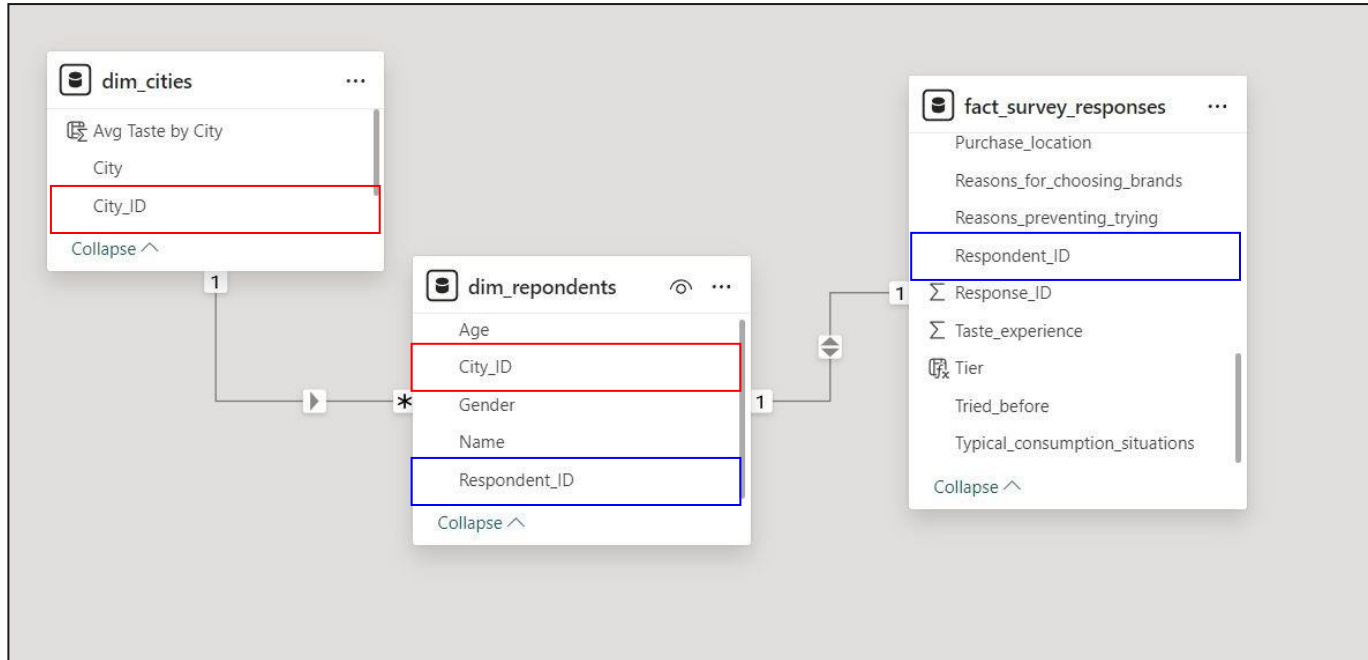
- Two Dimensions and one Fact table
- Dimension Tables: City, Respondents
- Fact Table: Survey Responses
- Data-type of most variables: Categorical
- City connected with Respondents: One-Many
- Respondents connected with Survey Responses: One-One



# 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.

Measures Table
Age Group
Effective Channel
Frequency
Improvement Desired
Ingredients Expected
Collapse ^

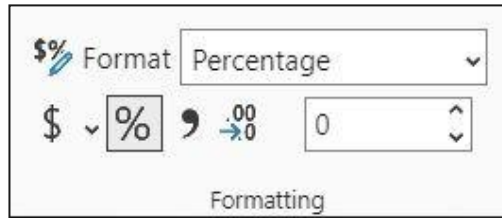
Measures Table
Liked Price
Most Visited Branch
Percent Health Concern
Percent Heard Before
Percent Interest in Natural
Collapse ^

Measures Table
Percent Tried Before
Preferred Brand
Preferred Location
Preferred Packing
Reason
Collapse ^

# 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))
```



The screenshot shows a formatting panel for a data visualization tool. At the top, there is a 'Format' dropdown menu set to 'Percentage'. Below this, there are several icons and controls: a dollar sign icon, a percentage sign icon, a comma icon, a decimal icon, and a numeric input field set to '0'. The word 'Formatting' is centered at the bottom of the panel.



# Data Analysis

**Categorical:** Identifying labels corresponding to maximum count.

```
1 Preferred Location =  
2 VAR CategoryCountTable =  
3     SUMMARIZE(  
4         fact_survey_responses,  
5         fact_survey_responses[Purchase_location],  
6         "Count", COUNTROWS(fact_survey_responses)  
7     )  
8 VAR MaxCount = MAXX(CategoryCountTable, [Count])  
9 RETURN  
10    MAXX(  
11        FILTER(CategoryCountTable, [Count] = MaxCount),  
12        fact_survey_responses[Purchase_location]  
13    )
```



# 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

Respondents

10000

Most Visited

Bangalore

Most Preferred

Cola-Coka

Avg.Taste

3.28

Age Group

19-30

Brands

All

Purchase Location

All

Consume Frequency

All

Health Concern

All

Interest in Natural

All

Consume Time

All

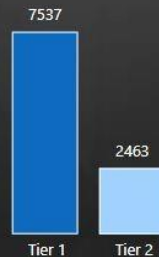
Consume Reason

All

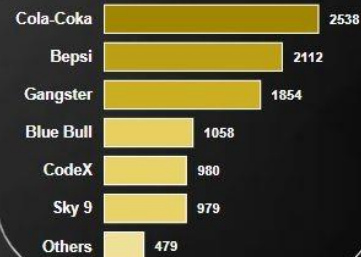
Distribution by City



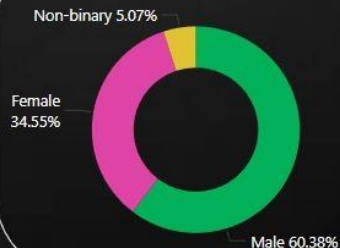
Distribution by Tier



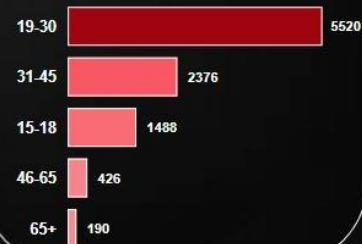
Distribution by Brand



Distribution by Gender



Distribution by Age



# Product Information

## Food and Beverage Industry Analytics

City

All

Respondents

10000

Heard

44%

Tried

49%

Most Expected

Caffeine

Improvement Desired

Reduced sugar

Brand

All

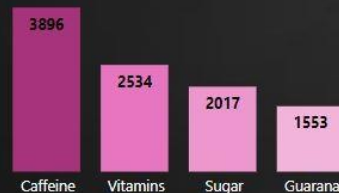
Age

All

Gender

All

Ingredients Expected



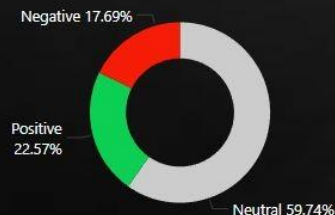
Heard Before



Tried Before



Brand Perception



Improvements Desired



# Consumption Pattern

## Food and Beverage Industry Analytics

City

All

Brand

All

Age

All

Gender

All

Respondents

10000

Health Concern

60%

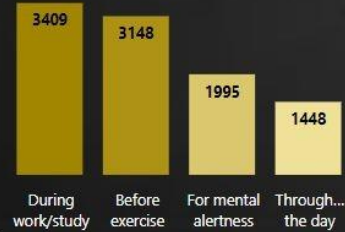
Naturally inclined

50%

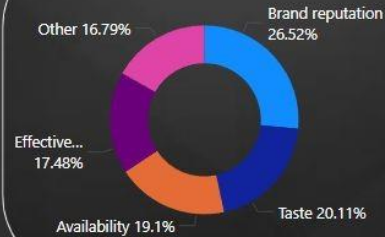
Reason  
Energy

Frequency  
Bi-weekly

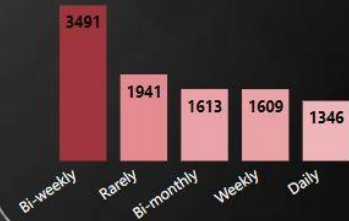
Consumption Time



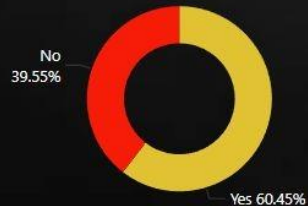
Factors driving Selection



Consumption Frequency



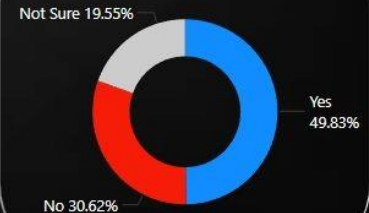
Health Concern



Consumption Reason



Interest in Natural





# Marketing Strategy

## Food and Beverage Industry Analytics

City

All

Respondents

10000

Effective Channel

Online ads

Preferred Location

Supermarkets

Preferred Packing

Compact,portab..

Preferred Range

50-99

Brand

All

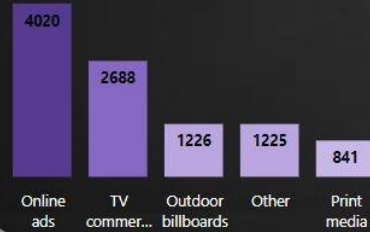
Age

All

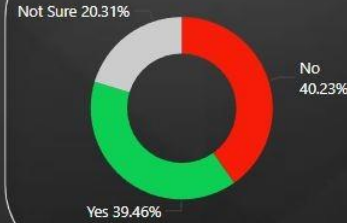
Gender

All

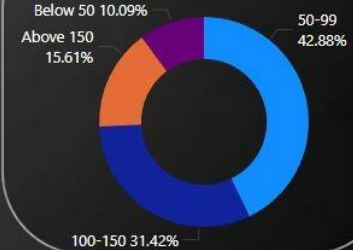
Effectiveness of Market Channels



Limited Edition



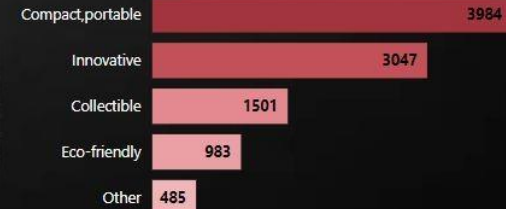
Distribution by Price



Purchase Location



Packaging Preference







# 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**