



CODEX DATA ANALYSIS REPORT

Microsoft Excel Portfolio Project

Abstract

This is a customer survey data analysis report on a German beverage company, Codex launched in India. It includes data analysis of 10000 customer responses, summarized results, supporting visualizations, useful insights drawn from data, and recommendations to improve the business.

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Contents

CodeX Data Analysis Report	2
Context.....	2
Company Overview	2
Problem Statement.....	2
Data Loading	2
Data Exploration	2
dim_cities	2
dim_respondents	3
fact_survey_responses.....	3
Data Cleaning.....	3
Data Merging	3
Primary Insights	4
1. Demographic Insights	4
2. Consumer Preferences	6
3. Competition Analysis	9
4. Marketing Channels & Brand Awareness	10
5. Brand Penetration	11
6. Purchase Behavior	13
7. Product Development.....	16
8. General Insights	18
Primary Insights Summary.....	23
Secondary Insights	24
Recommendations.....	25
Resources.....	26

CodeX Data Analysis Report

Context

Company Overview

CodeX is a German beverage company that aims to make its mark in the Indian market. A few months ago, they launched their energy drink in 10 cities in India. Their marketing team is responsible for increasing brand awareness, market share, and product development. They conducted a survey in those 10 cities and received results from 10k respondents. Peter Pandey, a marketing data analyst, is tasked to convert these survey results to meaningful insights that the team can use to drive actions.

Problem Statement

Analyze the customer survey response data from CodeX and generate useful primary and secondary insights for their marketing team to help them drive informed decisions and improve their business strategy.

Data Loading

Data is present in the form of 3 CSV files.

1. dim_cities.csv
2. dim_respondents.csv
3. fact_servey_responses.csv

Loaded all three CSV files into Microsoft Excel using the following steps:

- Click on Data tab
- Get Data -> From File -> From Text/CSV
- Select the file and click 'Import'
- Click the 'Load' button

Data Exploration

dim_cities

Columns: *City_ID*, *City*, *Tier*

Rows: 10

dim_respondents

Columns: *Respondent_ID, Name, Age_Group, Gender, City_ID*

Rows: 10000

fact_survey_responses

Columns: *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, Reasons_for_choosing_brands, Improvements_desired, Ingredients_expected, Health_concerns, Interest_in_natural_or_organic, Marketing_channels, Packaging_preference, Limited_edition_packaging, Price_range, Purchase_location, Typical_consumption_situations*

Rows: 10000

Data Cleaning

- There are NO missing values in the data.
- There are NO duplicate values in the data.
- Filtering the data on "Heard_before" and "Tried_before" columns, there are 2855 rows where respondents have answered a "No" in "Heard_before" and a "Yes" in "Tried_before". Although this doesn't seem to be a sincere answer but these are a significant number of rows in the data (28.55%) so I have kept these rows in the data because other columns have information which is not impacted by these answers.

Data Merging

1. Copied *City_ID* and *Age* from *dim_respondents* into *fact_survey_responses* sheet as *City_ID* and *Respondent_Age* respectively.
2. Added a column *City_Name* using VLOOKUP to map city names with their IDs from *dim_cities*.

FORMULA =VLOOKUP(K2, dim_cities!\$A\$2:\$C\$11, 2, FALSE)

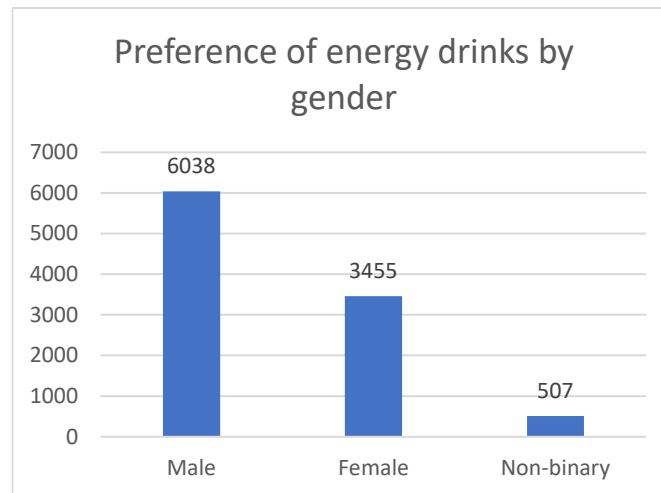
Primary Insights

1. Demographic Insights

a. Who prefers energy drinks more? (Male/Female/Non-Binary)

FORMULA =COUNTIF(dim_respondents!\$D\$2:\$D\$10001, A3)

Preference of energy drinks by gender	
Male	6038
Female	3455
Non-binary	507



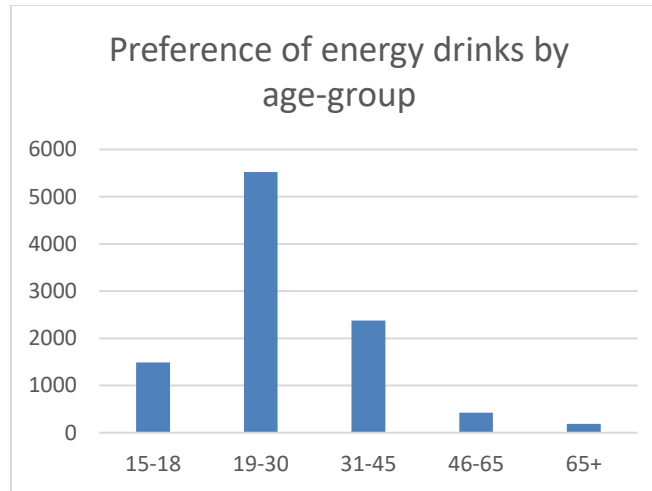
Insight:

Males prefer energy drinks more than females and non-binary.

b. Which age group prefers energy drinks more?

FORMULA =COUNTIF(dim_respondents!\$C\$2:\$C\$10001, E3)

Preference of energy drinks by age-group	
15-18	1488
19-30	5520
31-45	2376
46-65	426
65+	190



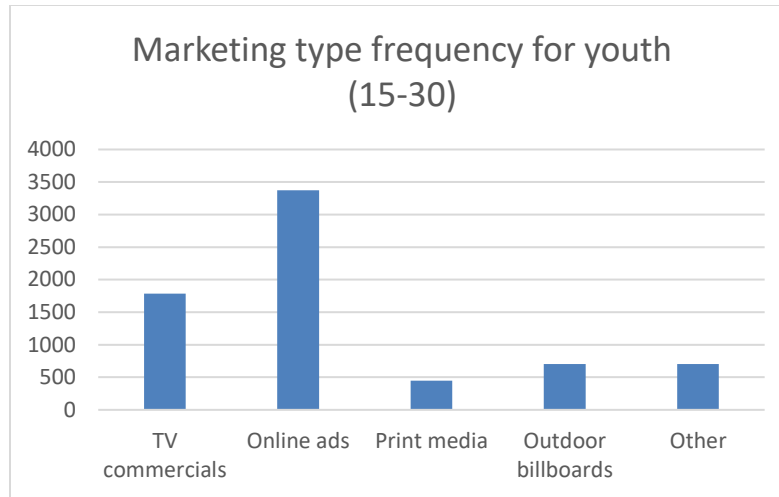
Insight:

Energy drinks are most popular in 19-30 years old people.

c. Which type of marketing reaches the most youth(15-30)?

PROCESS Filtered the data for ages 15-18 & 19-30, then filtered it by each marketing type and calculated their count.

Marketing type frequency for youth (15-30)	
TV commercials	1785
Online ads	3373
Print media	446
Outdoor billboards	702
Other	702



Insight:

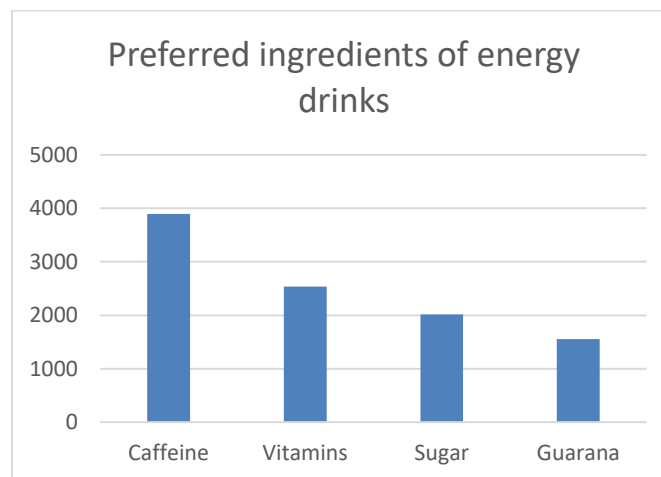
Online ads reach the most youth(15-30).

2. Consumer Preferences

a. What are the preferred ingredients of energy drinks among respondents?

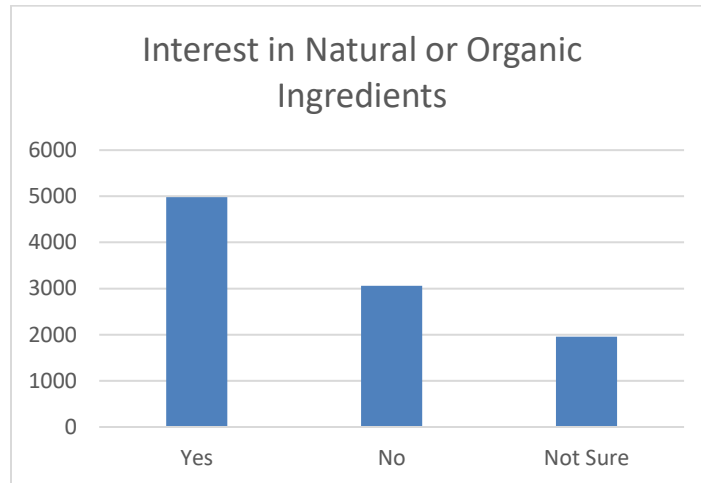
FORMULA =COUNTIF(fact_survey_responses!\$Q\$2:\$Q\$10001, A3)

Preferred ingredients of energy drinks	
Caffeine	3896
Vitamins	2534
Sugar	2017
Guarana	1553



FORMULA =COUNTIF(fact_survey_responses!\$S\$2:\$S\$10001, D3)

Interest in Natural or Organic ingredients	
Yes	4983
No	3062
Not Sure	1955



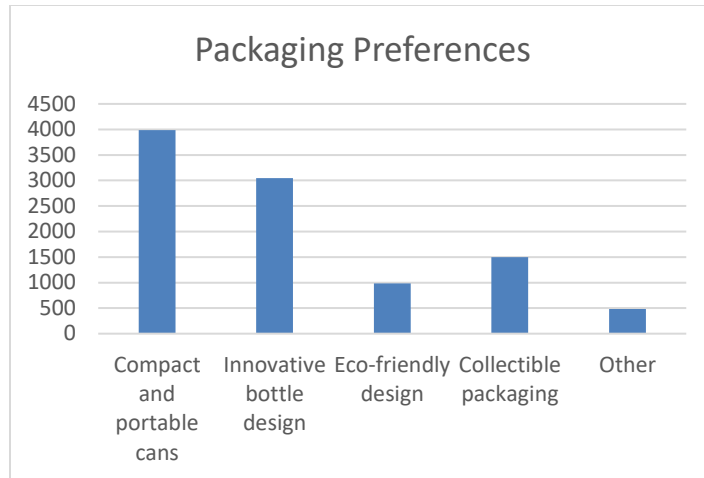
Insight:

Caffeine is the most preferred ingredient of energy drinks among respondents and most consumers prefer natural or organic ingredients.

b. What packaging preferences do respondents have for energy drinks?

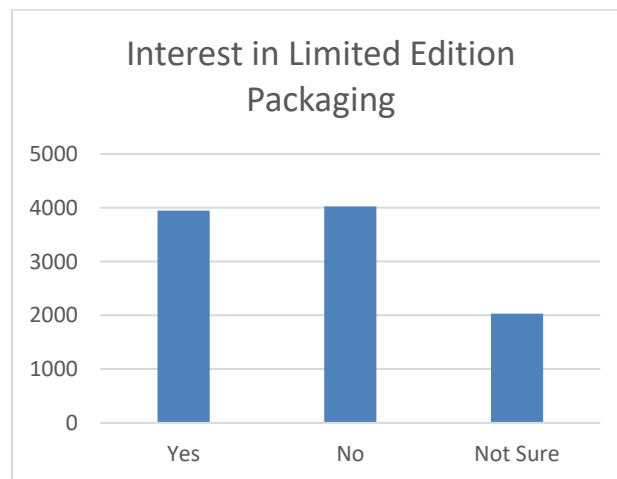
FORMULA =COUNTIF(fact_survey_responses!\$V\$2:\$V\$10001, G3)

Packaging Preferences	
Compact and portable cans	3984
Innovative bottle design	3047
Eco-friendly design	983
Collectible packaging	1501
Other	485



FORMULA =COUNTIF(fact_survey_responses!\$W\$2:\$W\$10001, J3)

Limited Edition Packaging	
Yes	3946
No	4023
Not Sure	2031



Insight:

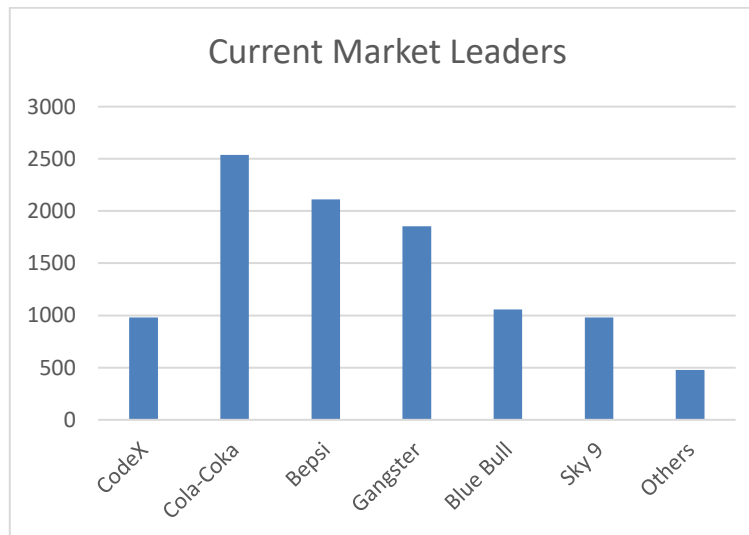
Most respondents prefer compact and portable cans followed by innovative bottle design. Limited edition packaging is preferred by almost 40% of the respondents only.

3. Competition Analysis

a. Who are the current market leaders?

FORMULA =COUNTIF(fact_survey_responses!\$N\$2:\$N\$10001, A3)

Current Market Leaders	
CodeX	980
Cola-Coka	2538
Bepsi	2112
Gangster	1854
Blue Bull	1058
Sky 9	979
Others	479



Insight:

Top 3 market leaders are Cola-Coka, Bepsi and Gangster.

b. What are the primary reasons consumers prefer those brands over ours?

FORMULA =COUNTIF(fact_survey_responses!\$O\$2:\$O\$10001, E3)

Brand Preference Reasons	
Brand reputation	2652
Taste/flavor preference	2011
Effectiveness	1748
Availability	1910
Other	1679



Insight:

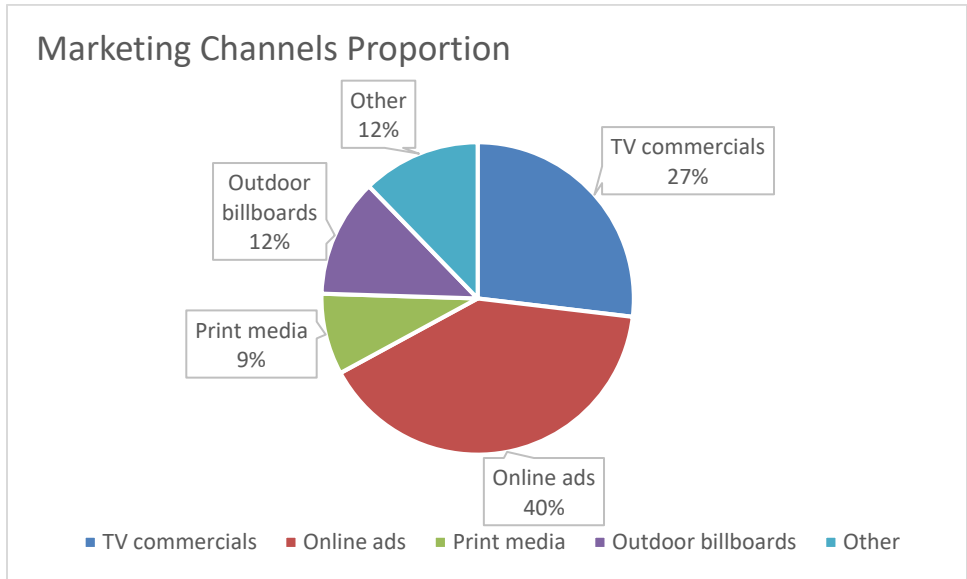
Brand reputation is the top most reason for brand preference followed by taste and availability.

4. Marketing Channels & Brand Awareness

- Which marketing channel can be used to reach more customers?
- How effective are different marketing strategies and channels in reaching our customers?

FORMULA =COUNTIF(fact_survey_responses!\$U\$2:\$U\$10001, A3)

Effectiveness of Marketing Channels	
TV commercials	2688
Online ads	4020
Print media	841
Outdoor billboards	1226
Other	1225



Insight:

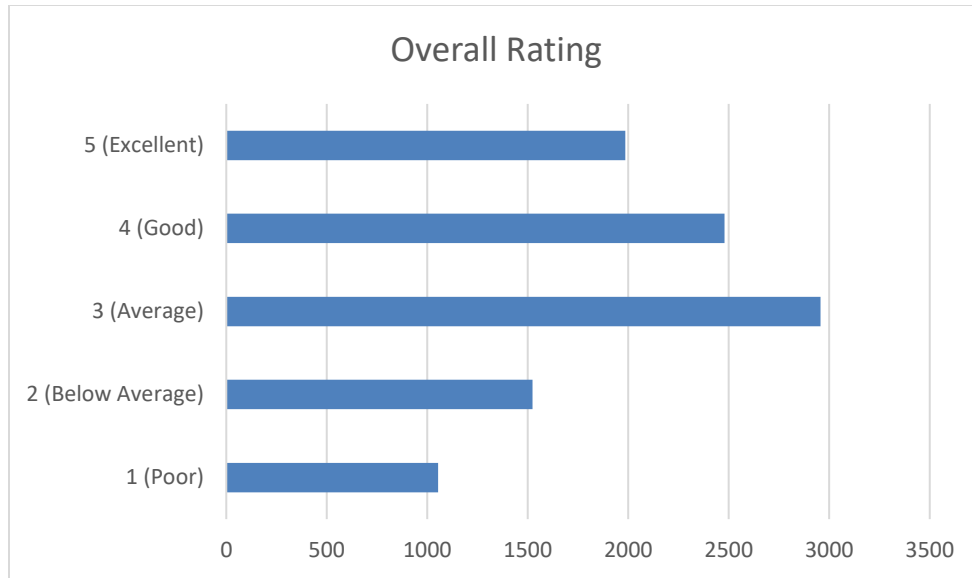
Online ads can be used to reach more customers. Online ads are most effective(40%) followed by TV commercials(27%) in reaching the customers.

5. Brand Penetration

a. What do people think of our brand? (overall rating)

FORMULA =COUNTIF(fact_survey_responses!\$J\$2:\$J\$10001, 1)

Overall Rating Frequency	
1 (Poor)	1054
2 (Below Average)	1524
3 (Average)	2957
4 (Good)	2479
5 (Excellent)	1986



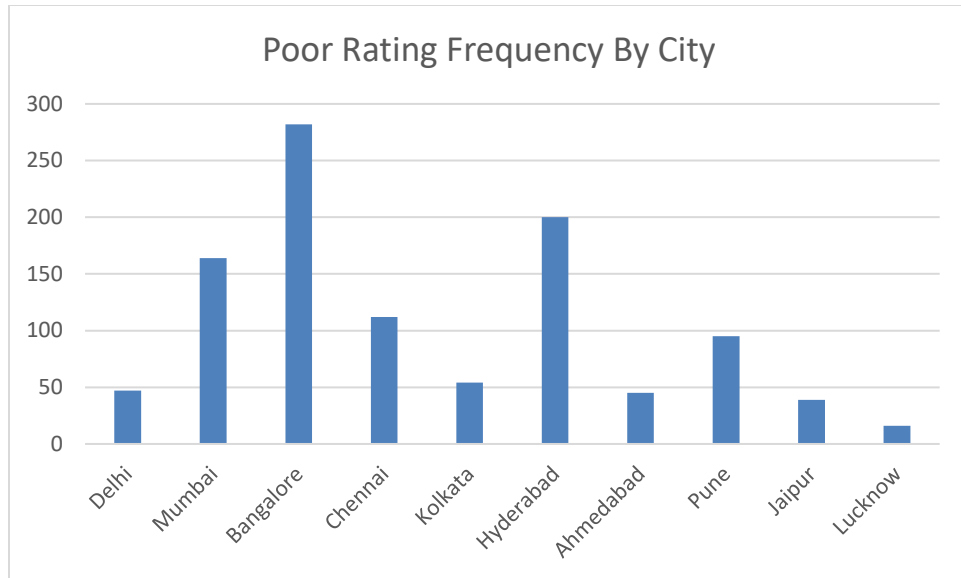
Insight:

Almost 30% of the respondents rate the brand as 'average', almost 25% rate it as 'good' and almost 20% rate it as 'Excellent'. So, the overall rating of the brand is good.

b. Which cities do we need to focus more on?

FORMULA =COUNTIFS(fact_survey_responses!\$J\$2:\$J\$10001, 1, fact_survey_responses!\$L\$2:\$L\$10001, H3)

Poor Rating Frequency by City	
Delhi	47
Mumbai	164
Bangalore	282
Chennai	112
Kolkata	54
Hyderabad	200
Ahmedabad	45
Pune	95
Jaipur	39
Lucknow	16



Insight:

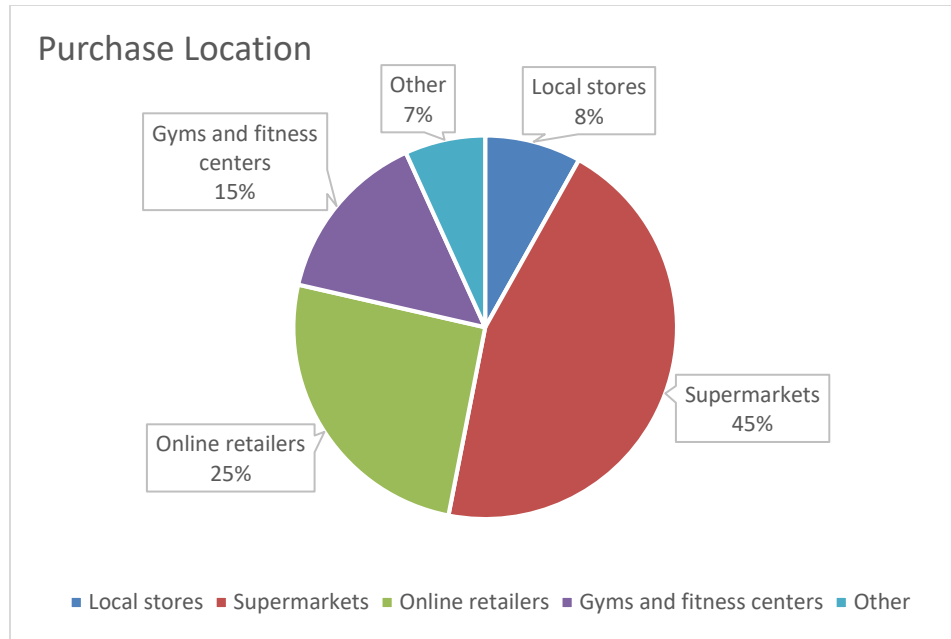
CodeX should focus more on promoting their brand in Bangalore, Hyderabad and Mumbai to improve its rating in these cities.

6. Purchase Behavior

- a. Where do respondents prefer to purchase energy drinks?

FORMULA =COUNTIF(fact_survey_responses!\$Y\$2:\$Y\$10001, A3)

Purchase Location	
Local stores	813
Supermarkets	4494
Online retailers	2550
Gyms and fitness centers	1464
Other	679



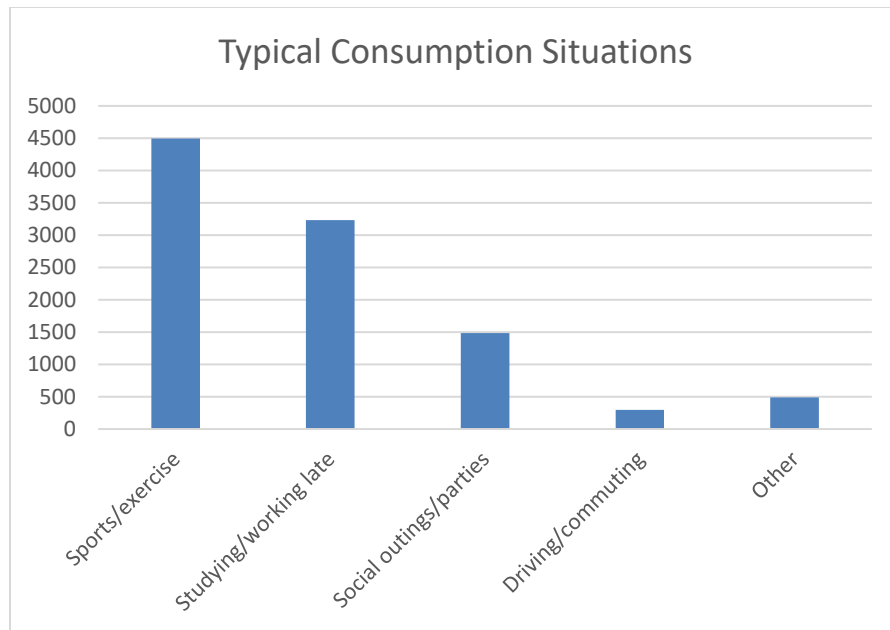
Insight:

Supermarkets are the most preferred purchase location of respondents.

- b. What are the typical consumption situations for energy drinks among respondents?

FORMULA =COUNTIF(fact_survey_responses!\$Z\$2:\$Z\$10001, H3)

Typical Consumption Situations	
Sports/exercise	4494
Studying/working late	3231
Social outings/parties	1487
Driving/commuting	297
Other	491



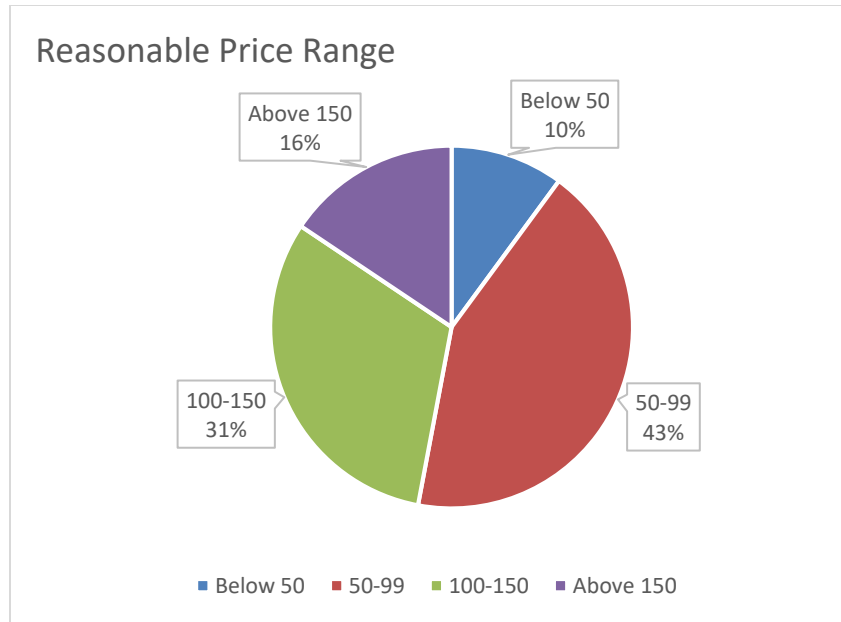
Insight:

Respondents mostly consume energy drinks during sports/exercise.

- c. What factors influence respondents' purchase decisions, such as price range and limited-edition packaging?

FORMULA =COUNTIF(fact_survey_responses!\$X\$2:\$X\$10001, N3)

Reasonable Price Range	
Below 50	1009
50-99	4288
100-150	3142
Above 150	1561



Insight:

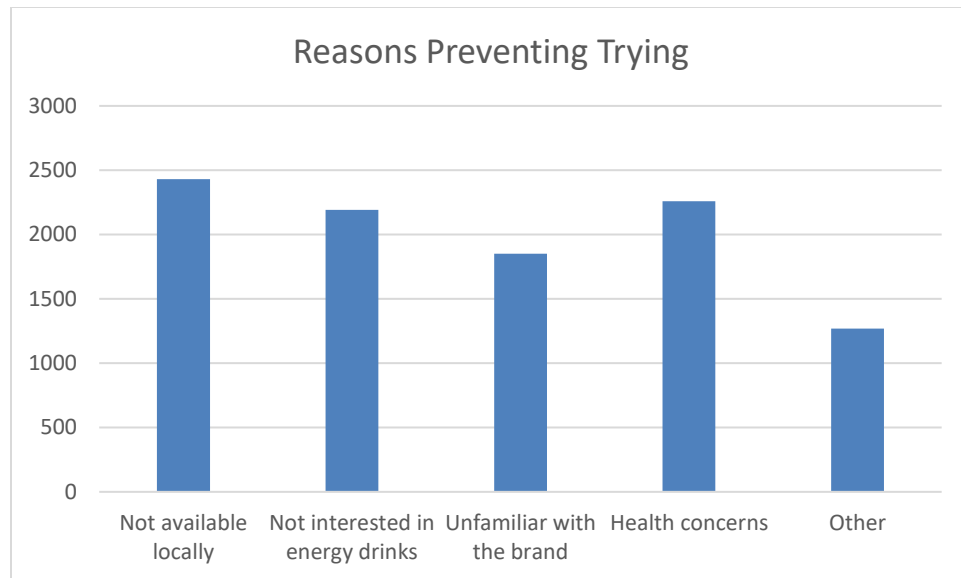
Rs. 50-99 is the most reasonable price range (43% votes).

7. Product Development

- a. Which area of business should we focus more on for product development?
(Branding/taste/availability)

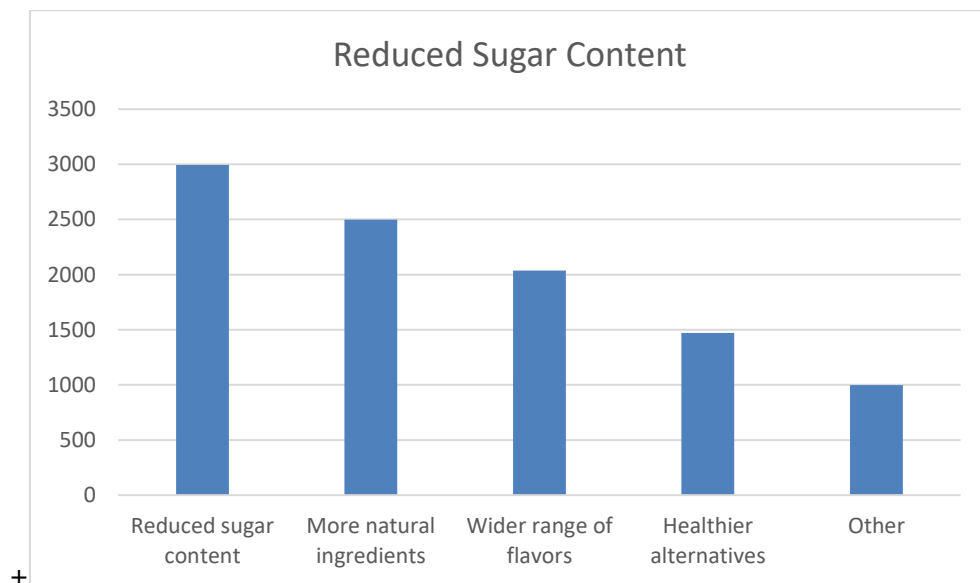
FORMULA =COUNTIF(fact_survey_responses!\$M\$2:\$M\$10001, A3)

Reasons Preventing Trying	
Not available locally	2431
Not interested in energy drinks	2193
Unfamiliar with the brand	1850
Health concerns	2258
Other	1268



FORMULA =COUNTIF(fact_survey_responses!\$P\$2:\$P\$10001, H3)

Product Development Areas	
Reduced sugar content	2995
More natural ingredients	2498
Wider range of flavors	2037
Healthier alternatives	1472
Other	998





Insight:

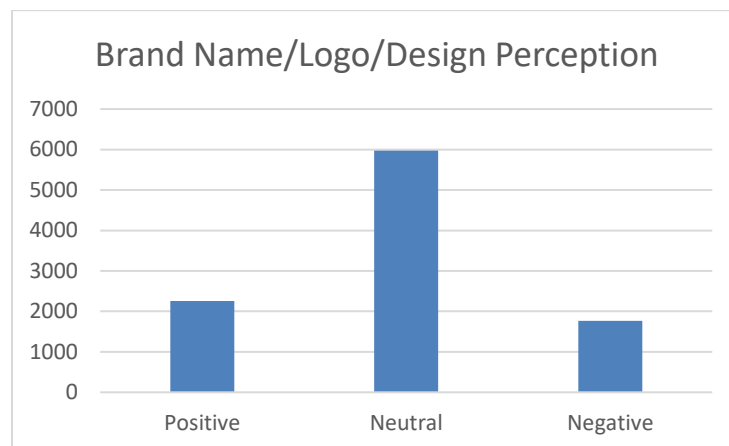
Factors influencing brand prevention are availability and health concerns of the people. Top product development areas are reducing sugar content and adding more natural ingredients. Branding is one of the most important factors as concluded from a previous insight.

8. General Insights

- a. What is the overall brand name/logo/design perception?
(Positive/Negative/Neutral)

FORMULA =COUNTIF(fact_survey_responses!\$G\$2:\$G\$10001, A3)

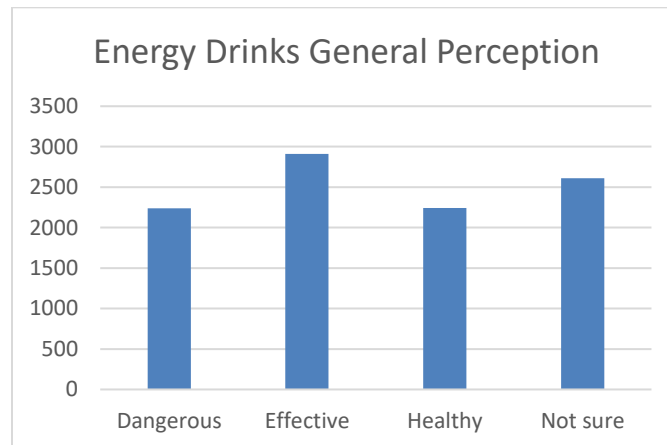
Brand Name/Logo/Design Perception	
Positive	2257
Neutral	5974
Negative	1769



- b. What is the perception of energy drinks in general?

FORMULA =COUNTIF(fact_survey_responses!\$H\$2:\$H\$10001, F3)

Energy Drinks General Perception	
Dangerous	2238
Effective	2909
Healthy	2243
Not sure	2610



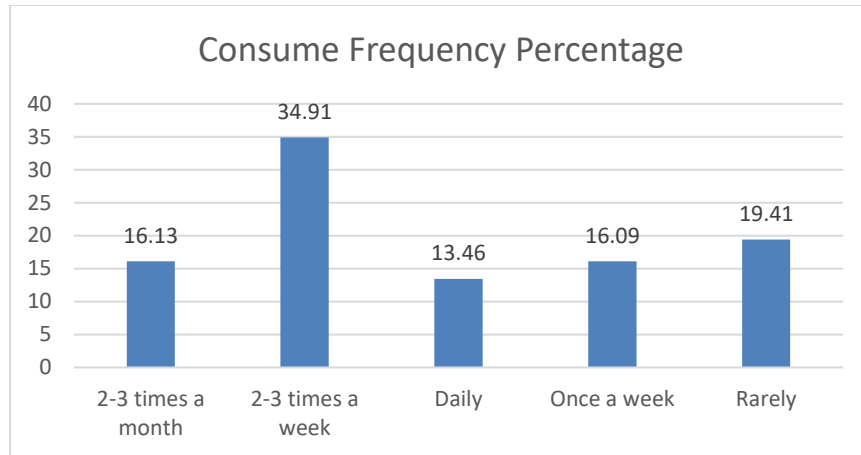
Insight:

The overall perception of the brand name/logo/design is toward neutral(almost 60%). General perception about energy drinks is more towards positive side as almost 51% respondents consider them as effective and healthy, 26% are not sure about it and only 22% consider them dangerous.

- c. How often do people consume energy drinks?

FORMULA =COUNTIF(fact_survey_responses!\$C\$2:\$C\$10001,J3)/10000*100

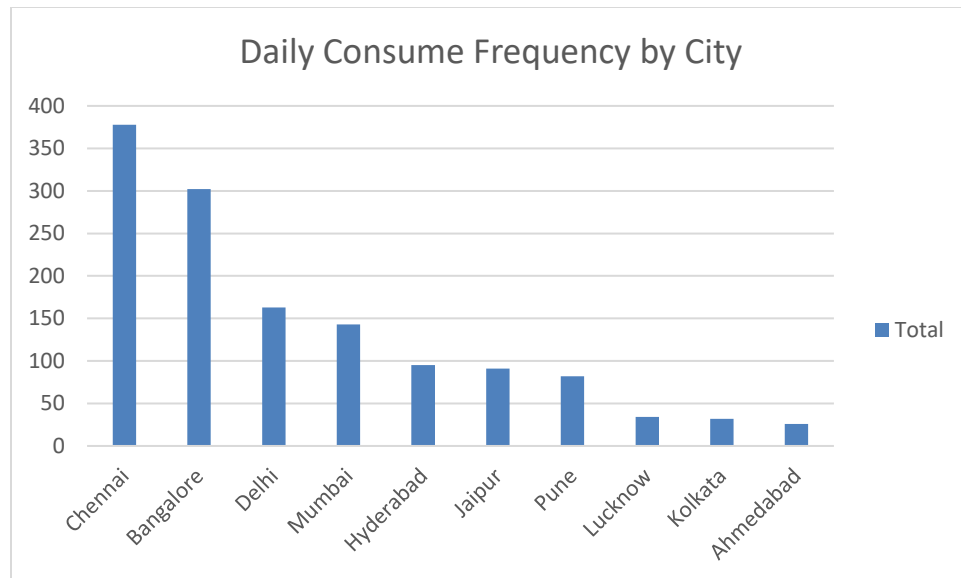
Consume Frequency Percentage	
2-3 times a month	16.13
2-3 times a week	34.91
Daily	13.46
Once a week	16.09
Rarely	19.41



d. In which cities do most daily consumers exist?

PIVOT TABLE

Consume_frequency Daily	
Row Labels	Count of Respondent_ID
Chennai	378
Bangalore	302
Delhi	163
Mumbai	143
Hyderabad	95
Jaipur	91
Pune	82
Lucknow	34
Kolkata	32
Ahmedabad	26
Grand Total	1346

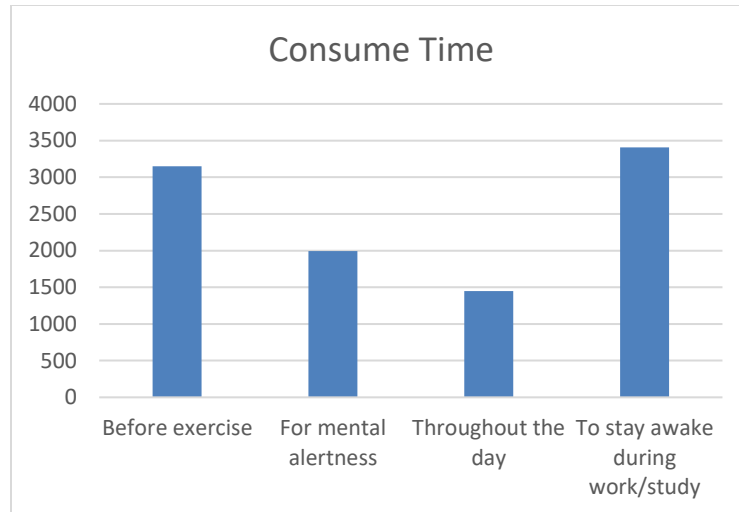


Insight:

Maximum percentage of respondents(almost 35%) consume energy drinks 2-3 times a week. Most daily consumers exist in Chennai and Bangalore.

e. What is the most preferred consume time of respondents?

Consume Time	
Before exercise	3148
For mental alertness	1995
Throughout the day	1448
To stay awake during work/study	3409

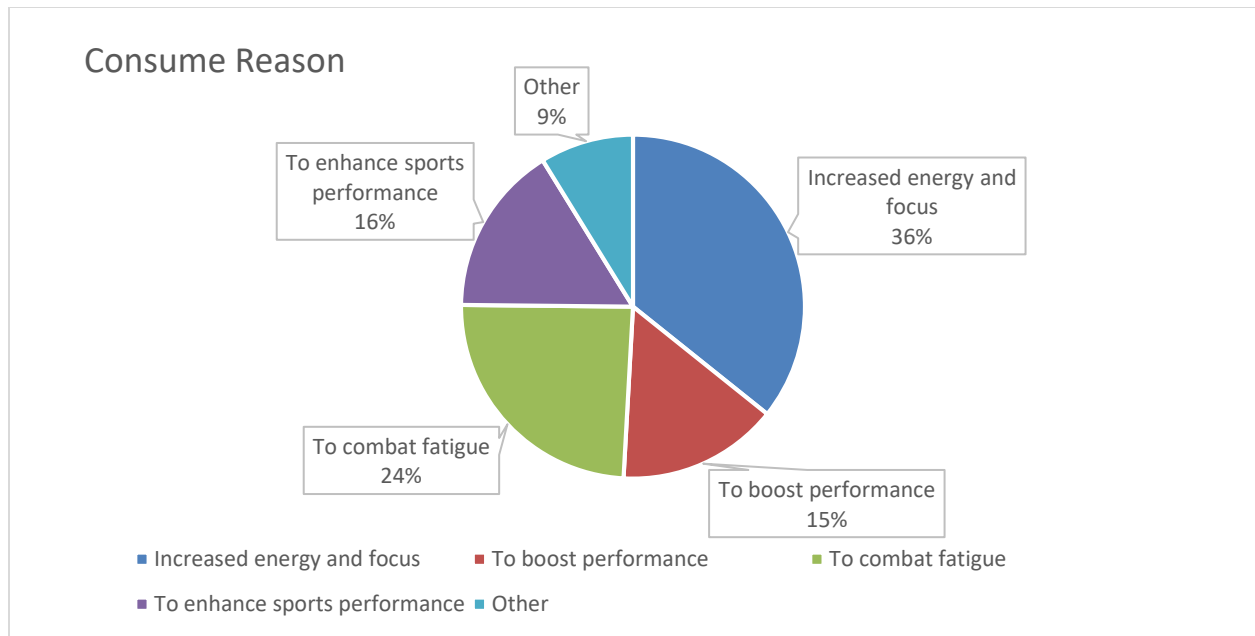


Insight:

Most of the users(almost 65%) consume energy drinks before exercise or study.

f. Why do people consume energy drinks generally?

Consume Reason	
Increased energy and focus	3574
To boost performance	1514
To combat fatigue	2428
To enhance sports performance	1604
Other	880



Insight:

People generally consume energy drinks for increased energy and focus.

Primary Insights Summary

1. Males prefer energy drinks more than females and non-binary.
2. Energy drinks are most popular in 19-30 years old consumers.
3. Most youth (15-30) came to know about energy drinks through online ads.
4. Caffeine is the most preferred ingredient of energy drinks among respondents and most consumers prefer natural or organic ingredients.
5. Most respondents (almost 70%) prefer compact and portable cans followed by innovative bottle design. Limited edition packaging is preferred by almost 40% of the respondents only.
6. Top 3 market competitors are Cola-Coka, Bepsi and Gangster.
7. Brand reputation is the top most reason for brand preference followed by taste and availability.
8. Online ads can be used to reach maximum customers. Online ads are most effective (40%) followed by TV commercials (27%) in reaching the customers.

9. Almost 30% of the respondents rate the brand as 'average', almost 25% rate it as 'good' and almost 20% rate it as 'Excellent'. So, the overall rating of the brand is toward good side.
10. Most neglected cities are Bangalore, Hyderabad and Mumbai so they need to be focused on during marketing campaigns.
11. Supermarkets are the most preferred purchase location of respondents.
12. People mostly consume energy drinks during sports/exercise.
13. Rs. 50-99 is the most reasonable price range (43% votes).
14. Factors influencing brand perception are availability and health concerns of the people.
15. Top product development areas are reducing sugar content and adding more natural ingredients.
16. The overall perception of the brand name/logo/design is toward neutral (almost 60%). General perception about energy drinks is more towards positive side as almost 51% respondents consider them as effective and healthy, 26% are not sure about it and only 22% consider them dangerous.
17. Maximum percentage of consumers (almost 35%) consume energy drinks 2-3 times a week. Most daily consumers exist in Chennai and Bangalore.
18. Most of the respondents (almost 65%) consume energy drinks before exercise or study.
19. Most people generally consume energy drinks for increased energy and focus.

Secondary Insights

By doing some online research about latest marketing trends in the food and beverage industry, I have gathered few secondary insights that might prove useful for CodeX marketing strategy.

1. Make use of data and technology to create personalized recommendations or offers for customers.
2. Focus on promoting health benefits of the product in marketing campaigns such as highlighting the use of natural or organic ingredients or reduced sugar content.
3. Create compelling social media content and offer special promotions for online customers.

4. Work with social media influencers to promote the product, leveraging their large following and credibility to reach new audiences.
5. Try to target every customer segment by providing variations in energy drinks in addition to the normal drink like diet drinks for middle aged and older people and light drinks for females. Similarly different packaging and size variations can be introduced to increase affordability for different customer segments.
6. Create a strong distribution network specially in major cities and a reverse supply chain network to collect bottles for reuse and save costs.
7. Make an effective use of digital marketing platforms like Facebook, Twitter, Instagram, YouTube and Snapchat.
8. Short form videos are very popular nowadays and catch the attention of online users immediately, so you can focus on them as well.
9. Consider reputation management through customer reviews a key part of your digital marketing strategy.
10. Optimize your content for search engines.
11. Younger people are most likely to consume energy drinks regularly so you can target your marketing strategy based on their specific needs.

Recommendations

1. Focus on digital marketing and social media campaigns to reach out to more customers.
2. The ideal price of the product should be Rs. 50-99.
3. Run marketing campaigns in poor-performance cities i.e. Bangalore, Hyderabad, and Mumbai. Offer special discounts at supermarkets in these cities to attract more customers.
4. A sports celebrity like Sachin Tendulkar or Sania Mirza can be an excellent brand ambassador because most of the respondents consume energy drinks during sports/exercise.
5. Youth aged 19-30 years should be the target audience because more than 50% respondents belong to this age group.
6. Students and sports players should be specifically focused during marketing campaigns as almost 65% of respondents use energy drinks before exercise or study.
7. Increase the supply of energy drinks in Chennai and Bangalore as most daily consumers exist in these cities.

8. Run more attractive marketing campaigns in Delhi and Mumbai to attract more daily customers as these are big and populous cities.

Resources

- <https://www.linkedin.com/pulse/here-our-top-10-marketing-strategies-food-beverage-businesses-webb/>
- <https://www.simplilearn.com/tutorials/marketing-case-studies-tutorial/coca-cola-marketing-strategy>
- <https://www.digitalsilk.com/digital-trends/food-beverage-digital-trends/>
- <https://medium.com/street-voice/5-consumer-insights-to-give-energy-drink-brands-a-boost-e18e6a59569e/>