



atomcamp

Excel Portfolio Project 1



Name: Shahid Ali



Course: Data Science



Contact: 03127830288



E-mail: itsali0320@gmail.com

A

Project Overview

Codex is a German beverage company that is aiming 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 which the team can use to drive actions.

B

Project Tasks

Imagine yourself as Peter Pandey, and do the following tasks:

- ❖ Check the “Primary_Secondary_Insights” document and answer the questions by analyzing the data provided. You can use any tool of your choice.
- ❖ You can add more research questions and answer them in your presentation that suits your recommendations.
- ❖ Present your insights/conclusions/recommendations using a report format. Please note that you must describe the dataset, any cleaning processes that you undertook, methods and answers to questions, your recommendations etc.
- ❖ Please include visualizations to support your analysis where needed – you can make these visualizations on Excel or Power BI as you like.
- ❖ Please note that it is possible that some respondents might not have answered all the questions sincerely. For instance, a person is more likely to have not tasted the drink if they haven’t heard about it. Use your judgment to clean the data as required.

C

Introduction

The purpose of this report is to analyze the energy drink market using the provided dataset and provide insights, conclusions, and recommendations for Peter Pandey, the marketing manager. The dataset includes information about respondents, their demographics, consumption behavior, brand preferences, and perceptions.

D

Resources Provided

- Dataset required to generate Insights
- Metadata
- Survey questions

E

Dataset Description

The dataset comprises three CSV files: dim_respondents, dim_cities, and fact_survey_responses. Dim_respondents contain information about respondents such as their ID, name, age group, gender, and city. Dim_cities include data about different cities, including their ID, name, and tier. Fact_survey_responses contain responses to various survey questions related to energy drinks.

F

Data Cleaning Process

Before diving into the analysis, we cleaned the dataset to ensure its accuracy and reliability. This involved several steps, including removing duplicate entries, handling any missing information, and filtering out responses that didn't make sense. We also took care to address any logical inconsistencies in the data to maintain its integrity and make sure our insights were based on solid information.

G

Analysis and Insights

This report is designed to examine the energy drink market using the provided data and offer insights, conclusions, and recommendations for Peter Pandey, the marketing manager. The dataset contains information about respondents, including their age, gender, consumption habits, brand preferences, and opinions. Our aim is to help Peter make informed decisions by analyzing consumer behavior and market trends found in the data.

H

Primary Insights

Primary insights distill complex survey data into concise observations, highlighting critical trends and preferences among consumers. These insights serve as the foundation for developing targeted strategies to enhance brand perception, drive product development, and maximize market penetration. I will conduct an analysis using tools such as Excel and Power BI. By examining the dataset, I will identify patterns, trends, and correlations to answer the research questions effectively below;

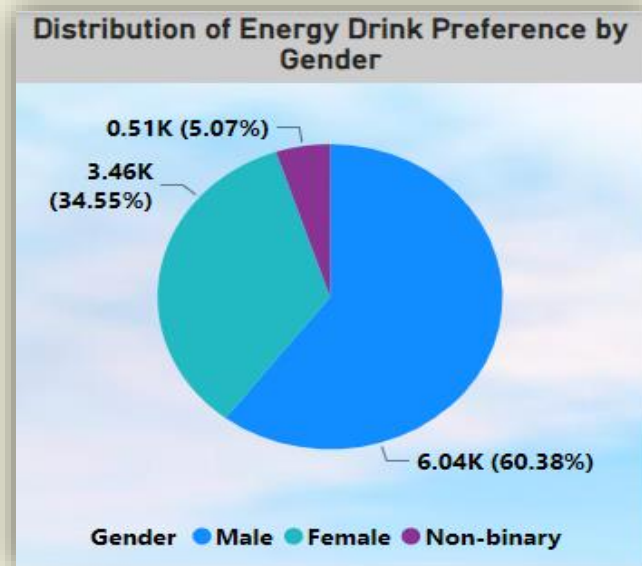
1

Demographic Insights

a. Who prefers energy drink more? (male/female/non-binary?)

Gender Distribution of Energy Drink Consumers

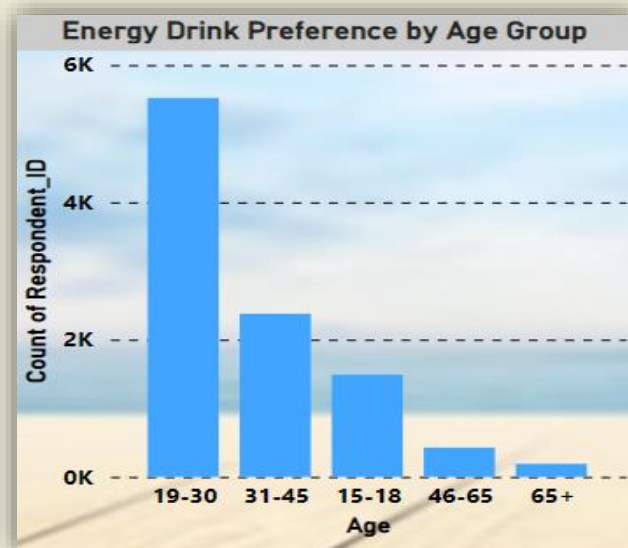
Insight: More than 6000 respondents identify as Male, while approximately 1.1k respondents identify as Female. This suggests a clear preference for energy drinks among males. The data indicates that males show a higher inclination towards consuming energy drinks compared to females.



b. Which age group prefers energy drinks more?

Age Distribution of Energy Drink Consumers

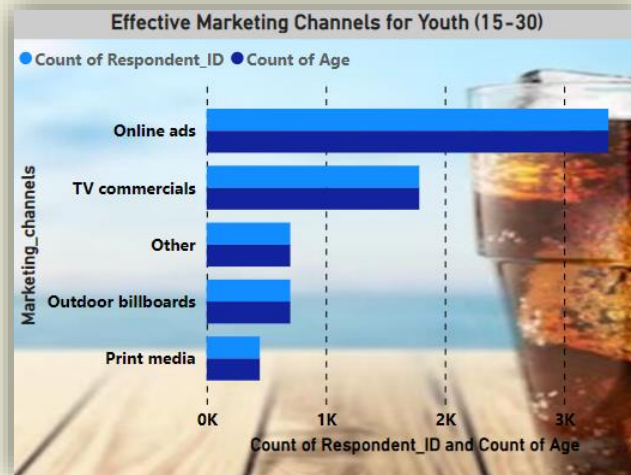
Insight: Among respondents who consume energy drinks, 55% fall within the age group of 19–30, while another 23% belong to the 31–45 age group. These statistics underscore that the 19–30 age group constitutes the primary consumer base for energy drinks, indicating a strong preference among young adults.



c. Which types of marketing reaches the most Youth (15-30)?

Marketing Channels Effectiveness for Youth

Insight: Online marketing demonstrates higher effectiveness in reaching respondents, with approximately 4.0k responses, followed by TV commercials with 2.7k responses. These insights suggest that online marketing channels resonate particularly well with the youth, especially those aged 15–30, indicating their preference for digital advertising platforms.



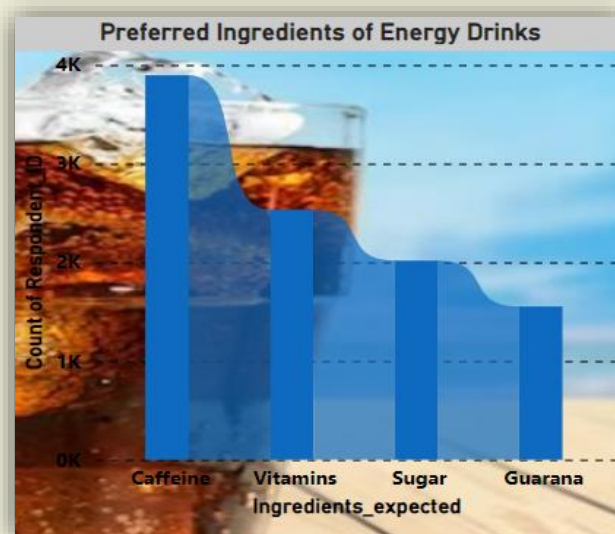
2

Consumer Preferences

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

Preferred Ingredients in Energy Drinks

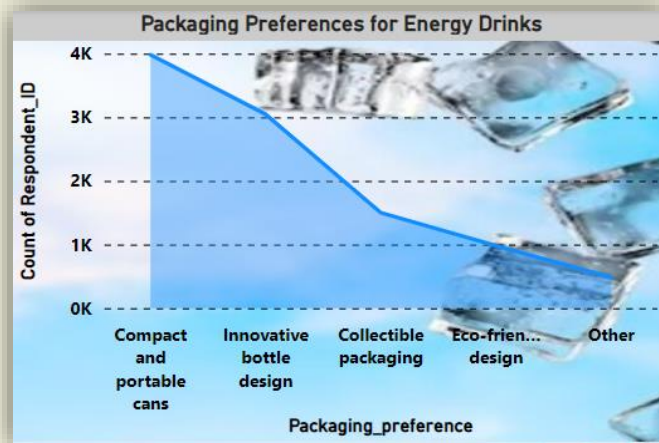
Insight: Among respondents, caffeine emerges as the most preferred ingredient in energy drinks, with 3.9k respondents favoring it. This is followed by vitamins (2.5k), sugar (2.0k), and Guarana (1.6k). The data highlights that caffeine is the primary ingredient sought after by consumers in their energy drinks.



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

Preferred Packaging Styles for Energy Drinks

Insight: Among respondents, compact and portable cans emerge as the most highly preferred packaging choice for energy drinks, with 4.0k respondents indicating a preference for them. This is followed by innovative bottle designs (3.0k), collectible packaging (1.5k), and eco-friendly designs (1.0k). The data underscores that consumers prioritize convenient and visually appealing packaging options when selecting energy drinks.



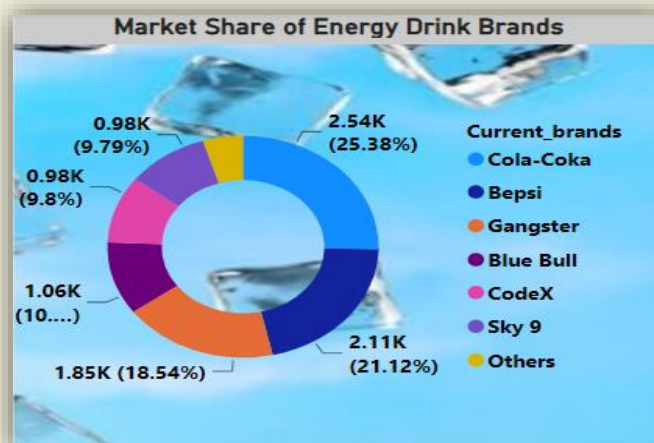
3

Competition Analysis

a. Who are the current market leaders?

Market Leader Analysis in Beverage Industry

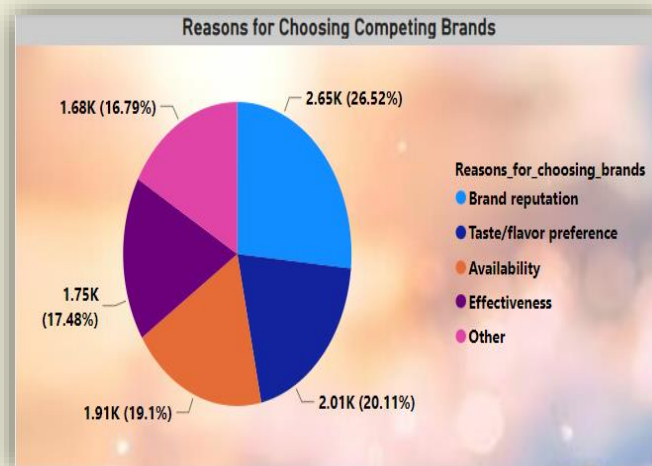
Insight: Cola-Coka emerges as the dominant player in the beverage industry, followed closely by Bepsi and Gangster. Approximately 2.5k respondents indicated consuming Cola-Coka, while 2.1k respondents consume Bepsi, and 1.9k respondents consume Gangster. These findings clearly identify the top players in the market.



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

Factors Influencing Brand Preference

Insight: Brand reputation emerges as the primary influencing factor for customers' brand preferences, with 2.7k respondents indicating its importance. This is followed by taste/flavor preference (2.0k), availability (1.9k), and effectiveness (1.7k). The data emphasizes the significant role of brand reputation in shaping consumer choices within the beverage industry.



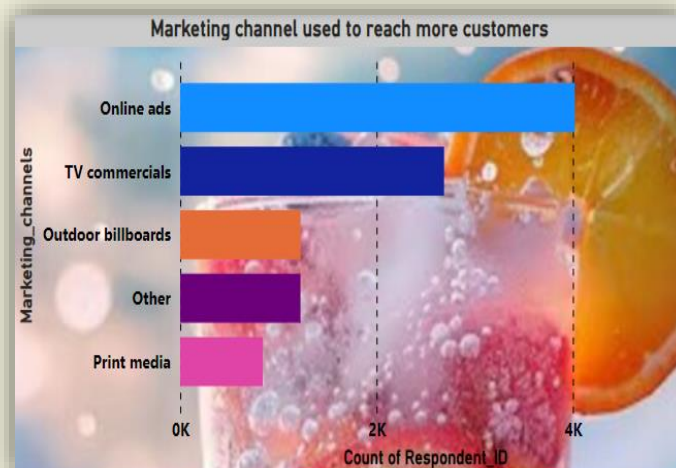
4

Marketing Channels

a. Which marketing channel can be used to reach more customers?

Effectiveness of Marketing Channels

Insight: Online marketing stand out as the most effective methods to reach a wider customer base, particularly among the youth demographic. Online ads (4.0k) and TV commercials (2.7k) emerge as the top channels for effectively reaching consumers. These findings underscore the importance and effectiveness of online marketing strategies in reaching target audiences efficiently.



b. How effective are different marketing strategies and channels in reaching our customers?

Analysis of Marketing Strategies and Channels Effectiveness

Insight: The analysis of marketing strategies and channels effectiveness reveals that online ads have been the most impactful in reaching our target audience, with 4020 respondents being reached through this channel. This data indicates that online ads are highly effective in reaching the target demographic of young consumers, as they spend a significant amount of time online.

Channels that Effect Marketing						
Marketing_channels	15-18	19-30	31-45	46-65	65+	Total
<input checked="" type="checkbox"/> Online ads	707	2666	490	109	48	4020
Neutral	425	1615	289	64	25	2418
Positive	157	588	110	18	14	887
Negative	125	463	91	27	9	715
<input checked="" type="checkbox"/> TV commercials	495	1290	737	117	49	2688
Neutral	291	735	429	62	24	1541
Positive	130	298	176	35	12	651
Negative	74	257	132	20	13	496
<input checked="" type="checkbox"/> Outdoor billboards	117	585	431	65	28	1226
Neutral	74	363	250	40	16	743
Positive	18	124	117	16	6	281
Negative	25	98	64	9	6	202
<input checked="" type="checkbox"/> Other	94	608	408	78	37	1225
Neutral	52	385	252	54	22	765
Positive	21	118	79	15	12	245
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<input checked="" type="checkbox"/> Print media	75	371	310	57	28	841
Neutral	44	225	190	33	15	507
Positive	16	93	65	12	7	193
Negative	15	53	55	12	6	141
Total	1488	5520	2376	426	190	10000

Regarding brand perception, the majority of respondents (59.74%) expressed a neutral stance. However, 22.57% viewed the brand positively, while 17.69% held a negative perception. These findings demonstrate the varying effectiveness of different marketing channels in reaching our target audience and shaping brand perception.

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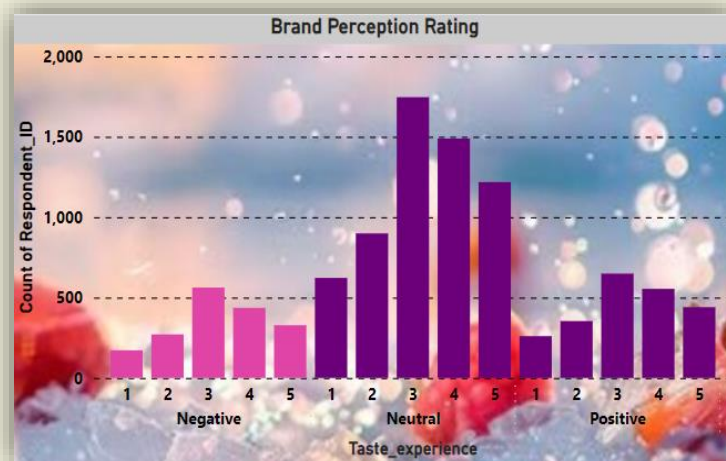
Brand Penetration

a. What do people think about our brand? (Overall rating)

Evaluation of Brand Perception

Insight: The majority of respondents had a positive taste experience with the brand, as reflected by the high count of positive ratings. Notably, there's a significant spike in positive responses at the rating of 4, indicating a strong positive perception of taste experience among the surveyed respondents. Fewer respondents rated them

experience negatively or neutrally, suggesting overall satisfaction with the taste experience provided by the brand.



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

Analysis of Brand Perception Across Cities

Insight: Upon analyzing brand perception across different cities, it is evident that Ahmedabad, Jaipur, and Lucknow exhibit the most negative perceptions towards our brand. Conversely, cities like Bangalore, Chennai, Hyderabad, and Kolkata demonstrate neutral perceptions. Therefore, focusing attention on these cities is imperative to enhance brand perception and increase market penetration.

More Focusing Cities				
Column2	Negative	Neutral	Positive	Total
Ahmedabad	▲ 32.68%	▲ 45.61%	◆ 21.71%	100.00%
Bangalore	◆ 14.78%	● 65.21%	◆ 20.01%	100.00%
Chennai	◆ 13.45%	● 65.64%	◆ 20.92%	100.00%
Delhi	◆ 17.25%	▲ 48.95%	▲ 33.80%	100.00%
Hyderabad	◆ 14.51%	● 64.98%	◆ 20.51%	100.00%
Jaipur	◆ 29.44%	▲ 45.28%	◆ 25.28%	100.00%
Kolkata	◆ 11.84%	● 69.43%	◆ 18.73%	100.00%
Lucknow	◆ 30.29%	▲ 48.00%	◆ 21.71%	100.00%
Mumbai	◆ 15.10%	● 56.09%	◆ 28.81%	100.00%
Pune	▲ 31.13%	▲ 46.25%	◆ 22.63%	100.00%
Total	17.69%	59.74%	22.57%	100.00%

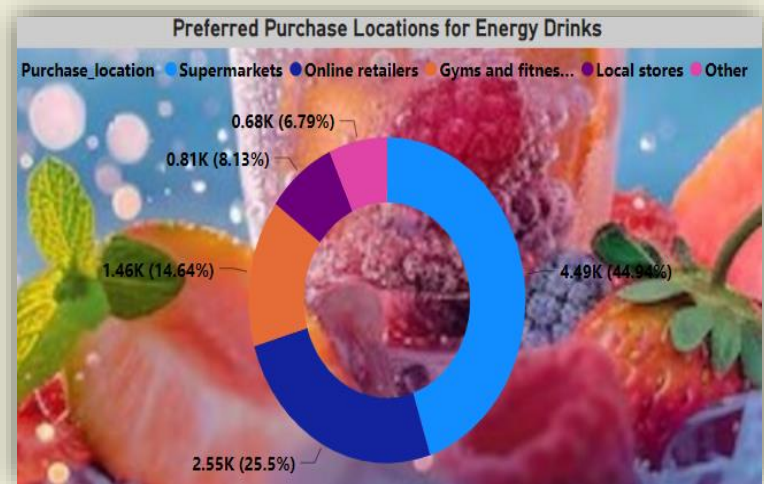
6

Purchase Behavior

a. Where do respondents prefer to purchase energy drinks?

Analysis of Preferred Purchase Locations

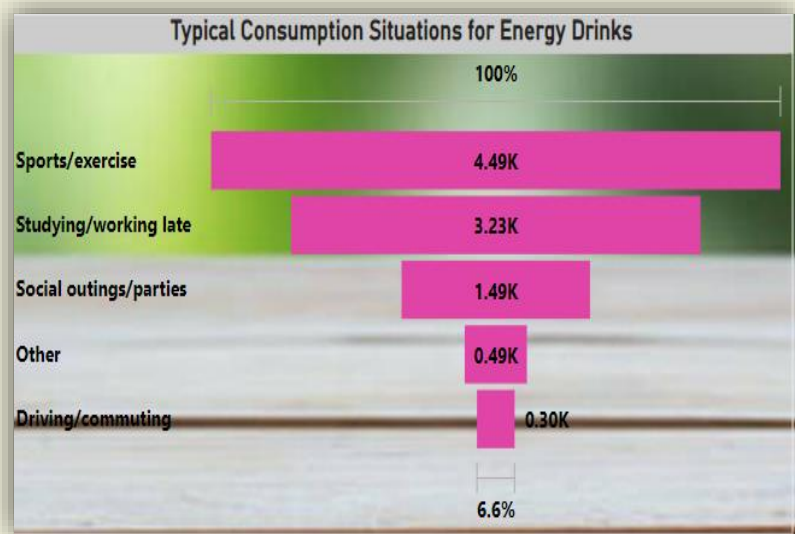
Insight: The analysis reveals that the majority of respondents prefer to purchase energy drinks from supermarkets, with 4.5k respondents indicating this as their preferred purchase location. This is followed by 2.6k respondents who prefer online retailers, 1.5k who prefer gyms and fitness centers, and 0.8k who prefer local stores. This emphasizes the significance of ensuring the availability of energy drinks in supermarkets to cater to consumer preferences effectively.



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

Analysis of Typical Consumption Situations

Insight: The analysis reveals that the majority of respondents consume energy drinks before or after sports/exercise (4.5k) and while studying/working late (3.2k) to stay alert and active. This data highlights that energy drinks are primarily used in scenarios that require increased energy and alertness, such as physical activities and prolonged periods of concentration.



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

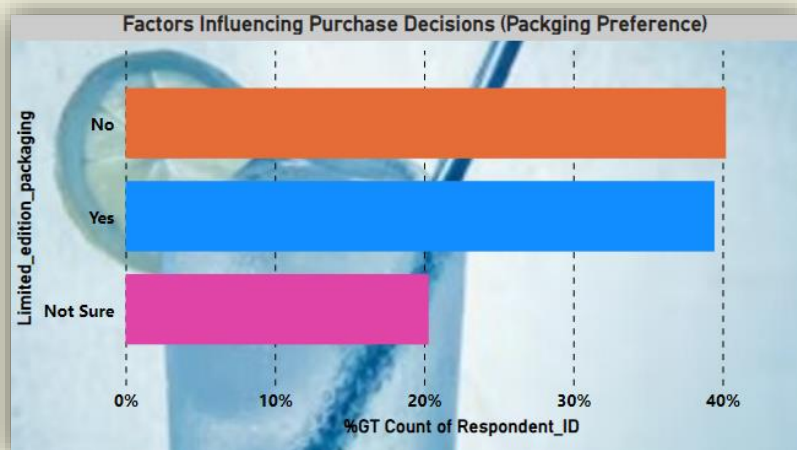
Influence of Price Range

Insight: 43% of respondents prefer purchasing energy drinks within the price range of 50–99 RS. This data underscores the significance of competitive pricing in influencing consumers' purchase decisions.



Impact of Limited-Edition Packaging

Insight: Approximately 40% of respondents express interest in buying drinks with limited edition packaging. This data highlights the importance of limited-edition packaging in attracting consumers and influencing their purchase decisions.



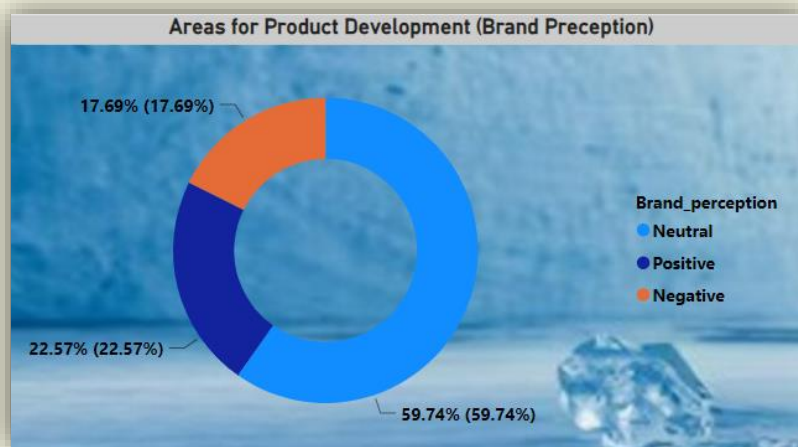
7

Product Development

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

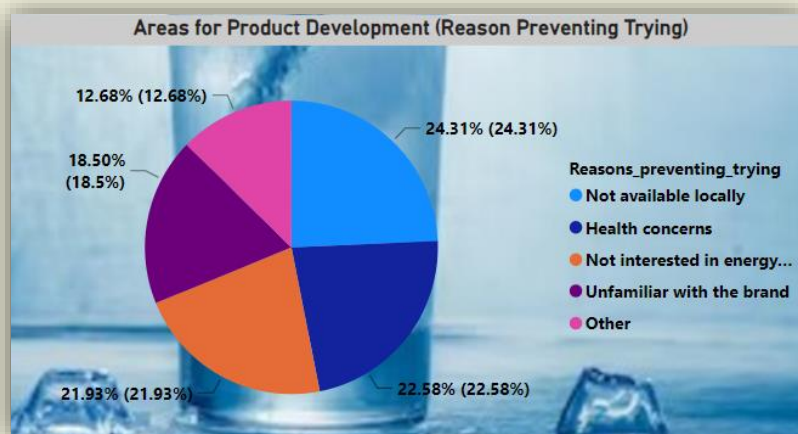
Brand Perception Priority

Insight: Approximately 60% of respondents hold a neutral perception of our brand. This indicates the need for prioritizing brand perception improvement efforts to enhance consumer sentiment and loyalty.



Product Development Focus

Insight: The visualization highlights key barriers to trying our product. Notably, the most significant reason is unavailability locally, followed closely by health concerns and lack of interest. Addressing these issues should be the primary focus of our product development efforts to improve accessibility, alleviate health worries, and generate consumer interest.

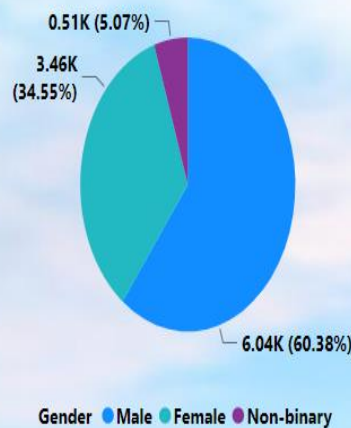


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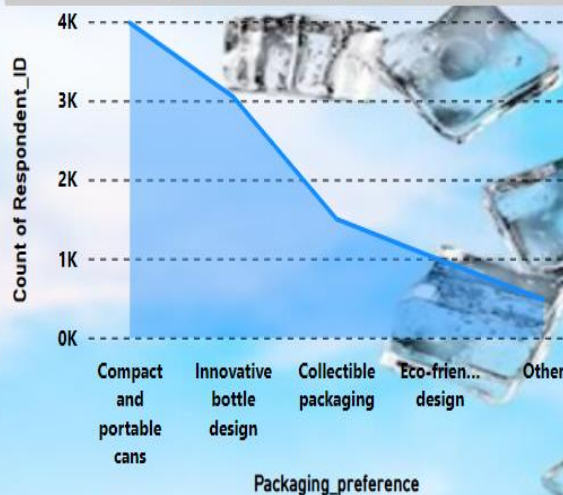
Power BI Visualizations

Making these visualizations, when accompanied by insightful analysis and recommendations, can effectively convey the findings of the report and provide actionable insights for Codex to enhance its market position and drive growth in the energy drink industry.

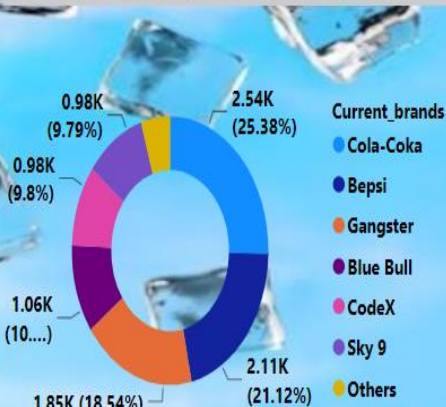
Distribution of Energy Drink Preference by Gender



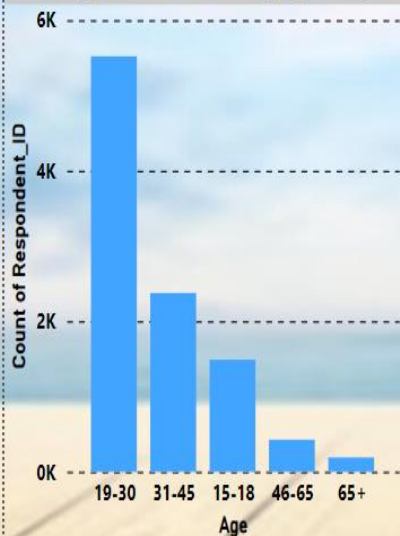
Packaging Preferences for Energy Drinks



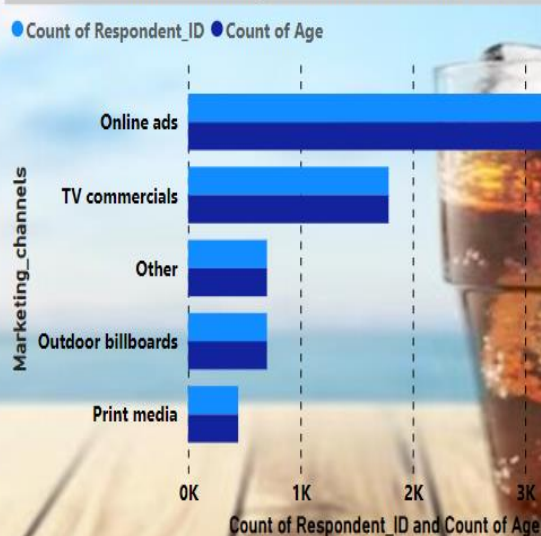
Market Share of Energy Drink Brands



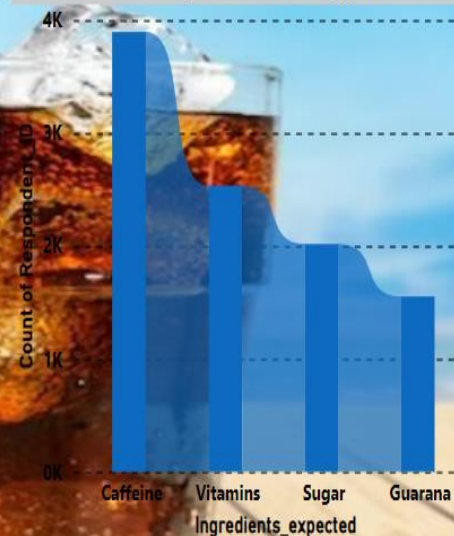
Energy Drink Preference by Age Group



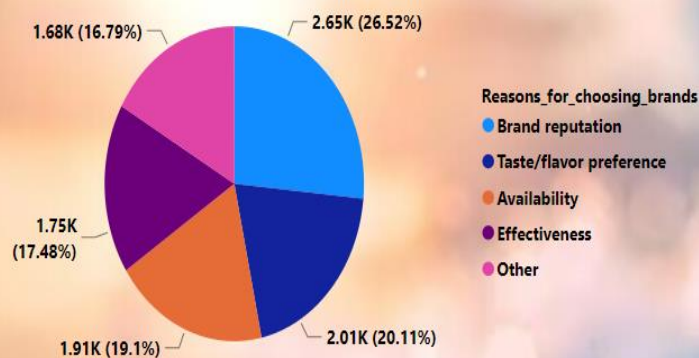
Effective Marketing Channels for Youth (15-30)



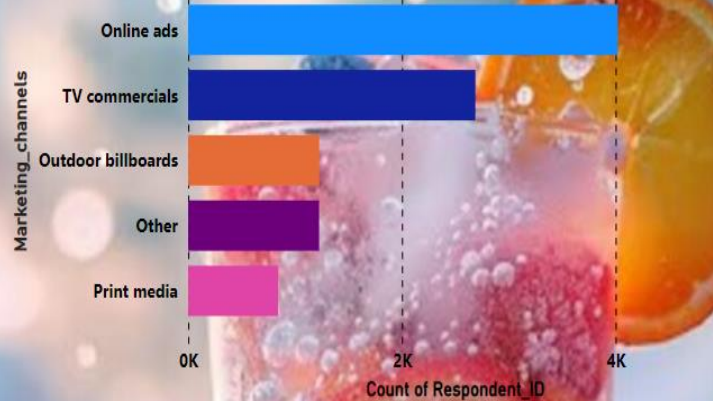
Preferred Ingredients of Energy Drinks



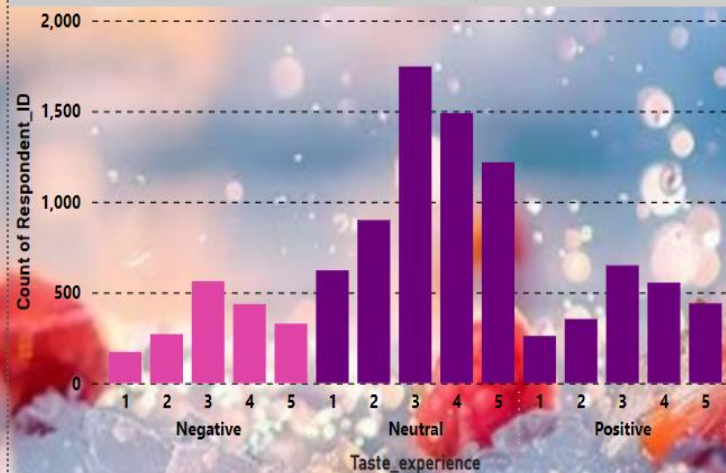
Reasons for Choosing Competing Brands



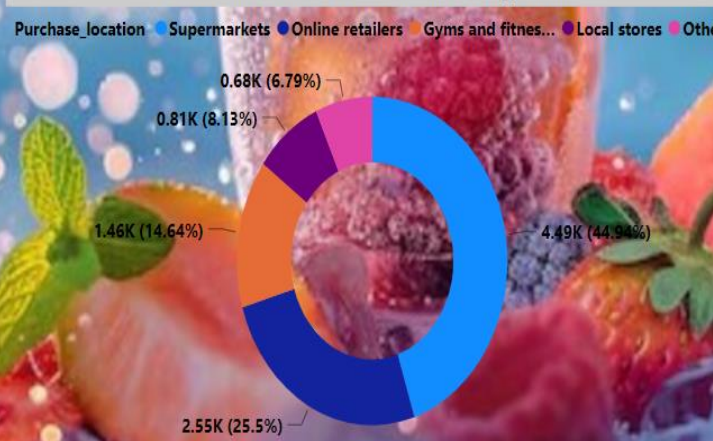
Marketing channel used to reach more customers



Brand Perception Rating



Preferred Purchase Locations for Energy Drinks



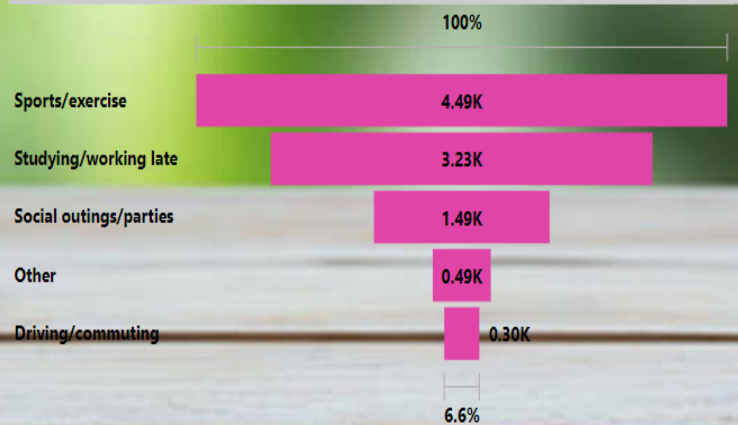
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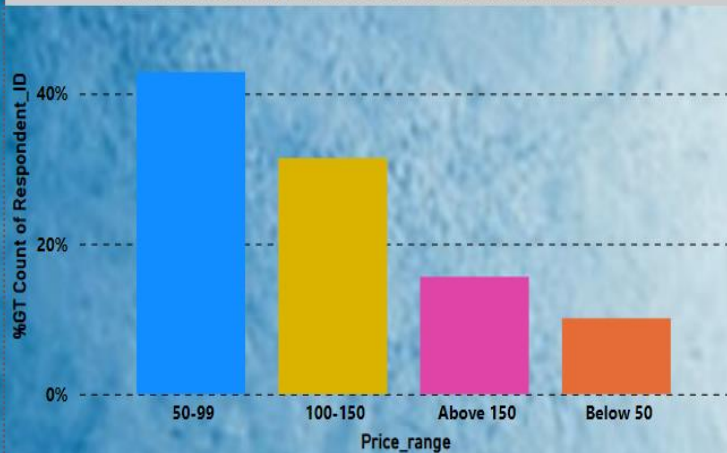
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Jaipur	29.44%	45.28%	25.28%	100.00%
Kolkata	11.84%	69.43%	18.73%	100.00%
Lucknow	30.29%	48.00%	21.71%	100.00%
Mumbai	15.10%	56.09%	28.81%	100.00%
Pune	31.13%	46.25%	22.63%	100.00%
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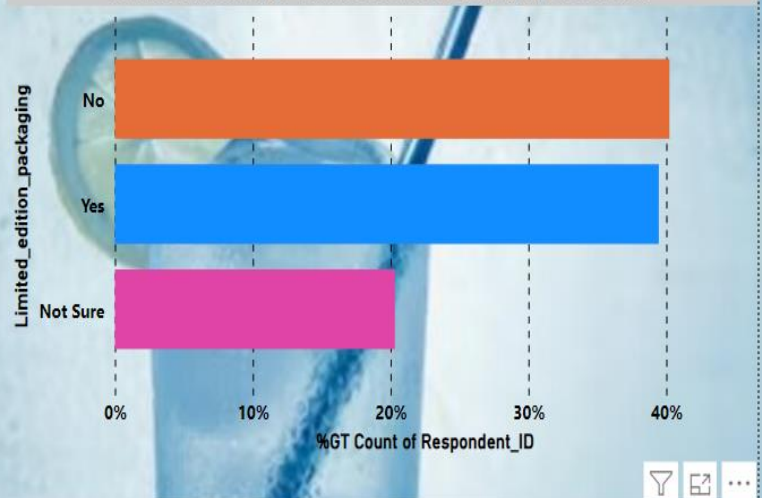
Typical Consumption Situations for Energy Drinks



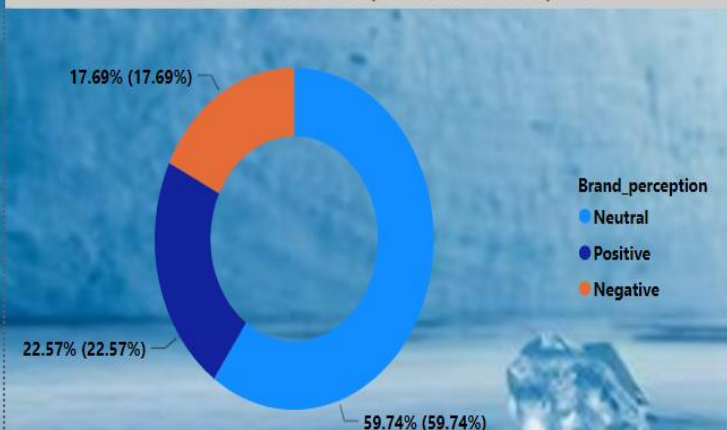
Factors Influencing Purchase Decisions (Price Preference)



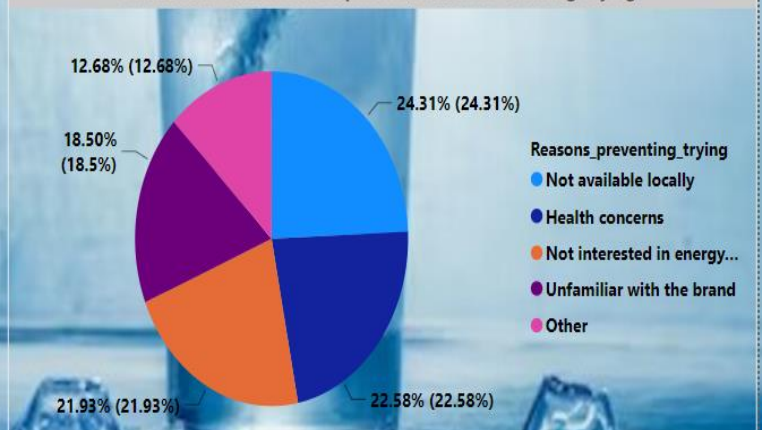
Factors Influencing Purchase Decisions (Packging Preference)



Areas for Product Development (Brand Preception)



Areas for Product Development (Reason Preventing Trying)



Here are some sample questions and answers that could be included in the Secondary Insights section based on additional market research;

Consumer Preferences and Trends:

a. What are the emerging flavor preferences in the energy drink market?

Emerging flavor preferences include fruit-infused variations such as mango, berry, and tropical flavors, along with herbal and botanical blends like mint and ginger.

b. How are changing lifestyles influencing demand for energy drink attributes?

Changing lifestyles, including increased focus on health and wellness, are driving demand for attributes such as natural ingredients, reduced sugar content, and functional benefits like cognitive enhancement.

c. What drives consumer switching behavior between energy drink brands?

Factors driving consumer switching behavior include pricing promotions, taste preferences, perceived health benefits, and brand loyalty programs.

Competitive Landscape Analysis:

a. How do Codex's pricing strategies compare to competitors?

Codex's pricing strategies are competitive, with a focus on affordability in the mid-range segment compared to premium-priced competitors like Blue Bull and Sky 9.

b. What marketing strategies are employed by competitors, and how they are effective?

Competitors utilize a mix of influencer marketing, experiential events, and social media campaigns to engage consumers. Effectiveness varies based on target audience and messaging relevance.

Brand Perception and Loyalty:

a. How does Codex's brand perception compare to industry benchmarks?

Codex's brand perception is favorable, with a strong association with energy and vitality. However, there is room for improvement in brand awareness among certain demographics and regions.

b. What drives brand loyalty among consumers?

Brand loyalty is driven by factors such as product consistency, positive experiences, perceived value for money, and emotional connections forged through brand storytelling and community engagement.

Product Development Opportunities:

a. What are the most sought-after product attributes in the energy drink market?

The most sought-after product attributes include natural ingredients, low or zero sugar content, functional benefits like mental focus and hydration, and convenient packaging formats.

b. How can codex differentiate its product portfolio through packaging?

Codex can differentiate its product portfolio through innovative packaging designs, such as resealable pouches for on-the-go consumption, customizable label options, and eco-friendly packaging materials to appeal to environmentally conscious consumers.

Marketing and Promotion Strategies:

a. What are the most effective digital marketing channels for reaching consumers?

Effective digital marketing channels include targeted social media advertising, influencer partnerships, content marketing through blogs and video platforms, and search engine optimization (SEO) to enhance online visibility.

b. How can codex leverage consumer-generated content to enhance brand credibility?

Codex can encourage user-generated content through social media contests, brand ambassador programs, and interactive campaigns that invite consumers to share their experiences and testimonials with the product.

K

Recommendations

Here Try Something New:

Think about adding exciting features to your drink. Maybe you could let people choose how much energy they want, or come up with cool new flavors that no one else has!

Be Kind to the Planet:

Use packaging that's good for the environment. People really care about that stuff nowadays, so it could make them like your brand even more.

Speak Their Language:

Make ads and messages that feel like they're made just for the people in each city or region. When it feels personal, they'll pay more attention.

Get Social:

Use Facebook, Instagram, and other fun websites to talk to your customers. Maybe even work with famous people on the internet to get them excited about Codex!

Stay Healthy Together

Work with gyms and groups that focus on being healthy. They can help tell their members why Codex is great for them, and you can help their members stay energetic and happy.

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