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INSTITUTE OF MANAGEMENT**

MANAGERIAL ECONOMICS (M.E)

COCA-COLA REPORT

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1. INTRODUCTION TO COCA-COLA

Coca-Cola is now a representation of the feeling of refreshments during their time of need that people worldwide share, which is punctuated as an integral part of the daily lives of almost two billion individuals every day. Being a world beverage giant, it has a huge spectrum of products that include traditional soft drinks such as its historical coca-cola to the sparkling waters, juices, teas, and energy drinks. Coca-Cola will remain successful in the year 2025 as it adopts the best practices to achieve its objectives of combining its classic brand legacy with emerging trends of satisfying consumer preferences and lifestyles.

Competing in an environment of dynamic oligopoly with limited number of main participants, Coca-Cola uses its excellent global distribution infrastructure and local market experience to remain competitive and easy to reach in more than 200 countries. The business model of the company is still geared towards the maximization of local production to meet special market needs, and have a cost management and mass production scale benefits ratio.

In addition to products, the high focus on the creation of emotional bonds with the help of innovative marketing campaigns and digital narratives contributes to brand loyalty and interaction with the company among consumers all over the world. To remain part of the more health-conscious and sustainability minded world, Coca-Cola spends a lot of money diversifying its range of better-for-you beverages, including low-sugar and no-cal options, and leads efforts on water stewardship and plastic waste reduction.

The history of Coca-Cola is not just about drinks- it is about making a positive contribution to the community by giving back to the local economies, creating jobs, and innovating in a manner that is responsible in the rapidly evolving world. The company has stood the test of time in face of uncertainty and the vagaries of global markets with its resilience, strategic nimbleness and commitment to making the world a better place, thus remaining successful and culturally relevant even in 2025.

- **Market dynamics:** Coca-Cola operates in this market, competing with various global and local beverage companies; despite this advantage exerted, the high power of the price, in addition to its products diversification, coupled to the pervading nature it covers in every corner of the world, ensures they enjoy just continuous increase in their revenue and profitability.
- **Market Segments:** Non-Alcoholic Beverages (Soft Drinks, Bottled Water, Juices and Energy Drinks)

- **Market structure: Oligopoly** (is less competitive, just a few major companies: Coca-Cola, PepsiCo and Keurig Dr Pepper)
- **Market Competition:** Contend against other beverage brands such as PepsiCo, Keurig Dr Pepper and various local drinks manufacturers.

Market Share:

- **Monthly Drinks Segment:** Contribution to the market is an estimated 45 percent.

Approximately +50% in the majority of markets where the segment is advanced.

- **Valuation: \$260 billion+ (2024)**
- **Funding:**

When Coca-Cola needs to borrow money, it issues stock on the equity market (that is, does not literally print or mint more paper certificates or coins) and sells bonds. The company has a valuation of over \$260 billion and finances growth via organic cash remittances and strategic partnerships.

Growth Metrics (2023): Revenue: \$43 billion.

Gross Profit Margin: 60.5%.

Operating Income: \$10,273MM

Net Income: \$9.5 billion.

The Largest customers in history, Coca-Cola has the largest number of customers consuming the coca-cola drink by taking one point ninety-one billion three hundred millions serving of this specified drink each and every day of this year.

More than 200 countries available, distribution power over 500 brands.

Expansion:

Particularly structured around the development of its better-for-you and less-sugary product offerings.

Being a sustainable ally of water stewardship and plastic waste management.

Emerging blends and acquisitions such as Costa Coffee (to start selling beverages in the hot category), and Freestyle vending machine building where you can get beverages that are tailor-made.

- Coca-Cola is an **oligopoly** in that new entrants find it difficult to enter the market, and the collusive

nature of this market structure complicates their entry due to the dominating status that Coca-cola occupies. Pepsi among several other companies in the soft drink industry are oligopolies too.

- **Oligopoly companies** are connected in a way they are mutually reliant, some might lower their prices in an attempt to get customers.

Oligopoly markets serve as market barriers to new entrants to the market as well.

The structure of Coca-Cola is 4-Geography and consisting of the following:

1. EMEA (Africa, Europe and Middle East).
2. Latin America
3. North America
4. Asia Pacific

Coca-Cola develops a financial reporting in geographic breakdowns, Global Ventures, and Bottling Investment.

2. MARKET STRUCTURE

2.1. Market Structure: Oligopoly

1. **Very Few Big Players:** there are a few large players in the market, such as the PepsiCo, Red Bull, that compete with Coca-Cola. They have almost exclusive control over beverage market in existence.
2. **Interdependence:** Coca-Cola checks every price, advertisement, new product close with PepsiCo. Many do advertise, promote and are competitive.
3. **Differentiation of the product:** Coca-Cola produces soft drinks, juices, teas and energy drinks. Each of its products has its various flavour, packaging and branding.
4. **High Barriers of entry:** It is hard as a beginner organisation at the stage of Coca-Cola competitiveness since big corporate organisations can utilise their large cost, huge distribution networks and brand name.
5. **Price Power:** Coca-Cola can also determine its product prices based on quality branding and customer loyalty. In this way Coca-Cola does not price on the lines of its competitors, nor are closely proximate markets largely limited by an already known range of face-to- face competitors.

2.2. Key Characteristics:

1. **Coca-Cola Differentiates:** in Non-Price Competition instead of trying to hustle companies on price cutting.
2. **Loyal Customer Base:** Coke customer loyalty keeps it quite high in the market.
3. **Economies of Scale:** Coca-Cola enjoys economies of scale as the large scales cut down the costs. Cartelization/collusion of comp.

2.3. Market Power:

With tremendous market influence, Coca-Cola sets the sales trends and makes the largest negotiations.

2.4. Competitors:

Major Competitors, in this case new entrants can compete with established players in the world soft drinks market.

3. MARKET ANALYSIS

3.1 Market Size and Growth:

World Beverage Market: It is projected to have over US 400 Billion worth of the global Soft Drink Market size by the end of 2023. Coca-cola is a large shark in this category segment, they own 48 percent percentage market.

Growth Rate: Beverages are expected to deliver healthy growth soon with more focus on health and well-being and entering into new markets. The world will experience growth of non-alcoholic beverage market by a CAGR of approximately 4.26 between 2023-2028.

3.2 Customer Segmentation:

1. **Demographic Segmentation** Coca-Cola appeals to different age groups, demographic statuses and markets. It has primarily middle-income customers and households, though.
2. **Geographic Segmentation:** The Coca-Cola has customers worldwide since it has good spread in North America, Latin America, and Europe and also Asia-Pacific and Africa that has grown rapidly.
3. **Lifestyle & Value Segmentation:** This needed to sub-categorize customers based on their few shared social classes of lifestyle or value. Coca-Cola appeals to consumers interested in having a refreshing beverage, [consumers] attending to brand heritage/taste-lovers and people who are not reluctant/front-runners affected by marketings / sponsorships.
4. **Behavioural Segmentation:** The brand focuses on ordinary customers who drink the Coke products but brings many occasional customers who become enticed due to promotions and specials.

3.3 Competitor Analysis:

PepsiCo is the company that sells the widest variety of beverages and snacks, therefore that is who they are competing with mainly. Its rivals, it declared then were **Red bull** and several local participants.

1. Strengths of Competitors:

- **PepsiCo:** Mega mini delivery, Surging marketing and expansive distribution.
- **Red Bull:** Good brand recognition and brand loyalty & Good, innovative advertising.

2. Weaknesses of Competitors:

- **PepsiCo:** Strong competition on major segments of soft drinks the company deals with in the Coca-Cola numerals.
- **Red Bull:** The energy beverages marketplace, as well as More expensive or cheaper rates, can make this less attractive.

Strategy:

Traditional supposition of branding rivalry has been product innovation, product diversification and market segmentation strategies.

3.4 Demand Forecasting:

1. **Trends:** rising numbers of health conscious consumers opting towards low-sugar and carbolic drinks, increment in demand in high-quality/boutique beverages.
2. **Regional Demand:** Future Source of Demand Coca-Cola will be Slower in Developed and mature markets on the basis of adjusting Consumer Preference to be against High Calorie Soda... and Consumption Patterns like sales will be powered up by more stable Economic Factors like Increased GDP per Capita Incomes than Health Factors...

Developed markets would also base demand patterns on products.

3.5. SWOT analysis

1. Strengths:

- A leading market share in the beverage industry and one of the strongest brands in the world.
- Differentiated product range with such iconic brands as Coca-Cola, Sprite, Fanta, Minute Maid and Dasani.
- Large global coverage in more than 200 countries.

- Well established distribution networks and relationships with bottling organizations.
- Big advertising budget and good advertising strategies.

2. Weaknesses:

- Majority of revenue depends on soft drink that is high in carbonation.
- The commentary on high sugar content and health issues.
- Poor representation in the food segment relative to the competitors.
- Relying on a small number of flagship brands such as Coca-Cola and Sprite.
- Water management problems and criticism of environmental practices.

3. Opportunities:

- Ready to drink (RTD) coffee and healthy drinks.
- Increasing consumer demand on low-sugary and healthy products.
- Growth in new markets where buying power is increasing.
- Raising the interest in environmental responsibility and sustainable packaging.
- Digitalisation and expansion of e-commerce sale channels.

4. Threats:

Government imposition of more laws and taxes on sugary drinks.

1. Increased health consciousness that may decrease the consumption of the conventional sugary beverages.
2. High competition with such brands as PepsiCo, Red Bull, and monster beverages.
3. The environmental problems like lack of water on production.
4. Recalls of products or quality control problem affecting brand image.

4. . ELASTICITY ANALYSIS

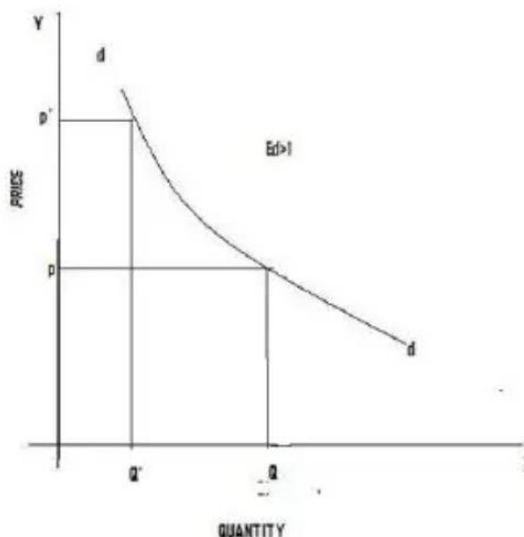
4.1 Elasticity of demand:

- The elasticity of demand for a commodity is the rate at which quantity changes as the price changes.

-

$$\text{Price Elasticity} = \frac{\% \text{change in Qty Demanded}}{\% \text{change in Price}}$$

- Price elasticity is found to be relatively elastic. This means if there is small change in price lead to the big change in quantity demanded.



- From the figure we can see when the price of coca cola was p , the quantity demand was Q , when the price increases to P' then the quantity demanded to Q' . Therefore we can say that coca cola is elastic in nature and **its elasticity for demand is more than 1.($Ed > 1$)**

4.2 DETERMINANTS OF DEMAND ELASTICITY

1. AVAILABILITY OF SUBSTITUTE:

- In the case of coca cola substitutes are easily available in the market. The market is already flooded with many aerated drinks. Example: Pepsi, Limca , Mirinda, Thums up, etc.

- So even if there is an increase in the price of coca cola, the consumers will shift their consumption from coca cola to aerated drinks because of easy availability of related substitutes.

2. TIME:

- The demand for coca cola is always related to a time factor. This implies that elasticity of demand varies with the length of time period. In case of long run elasticity of demand is elastic (because the period is long enough for the people to shift their taste and preference) and in case of the short run the demand remain inelastic.

3. INCOME LEVEL:

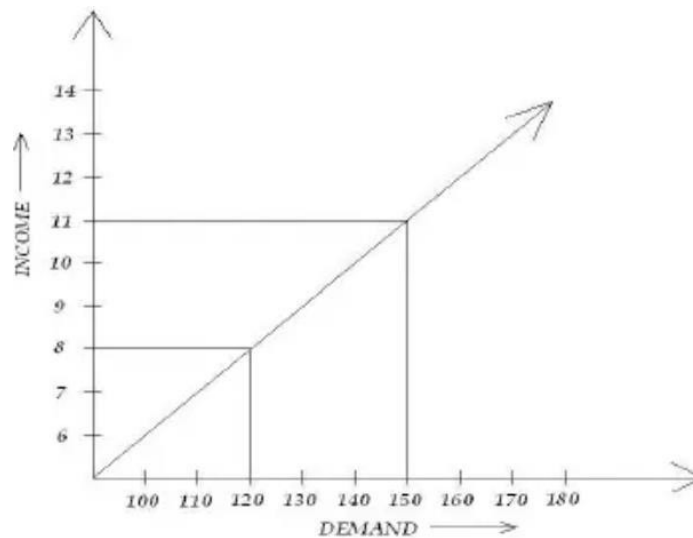
- The demand for coca cola is elastic for middle income group. The middle income group is sensitive to the change in price. Therefore if there is an increase in price of coca cola, the demand in the middle income group will decrease.

1. PROPORTION OF INCOME SPENT ON THE GOODS:

- Coca cola is that product which is meant for the youngsters. In the long run the demand is relatively inelastic because even in the long run if there is a increase in price of coca cola even the hard core Coca-Cola drinker will shift their preference because of the constrain in their pocket money whereas in short run the demand is inelastic.

4.3 INCOME ELASTICITY

- If the income rises by 20 % then the demand will rise by 10 % the curve is positively sloped means that elasticity of Income is > 0 and < 1 .
- (When the average income was Rs. 10,000 and demand was 100)



4.4 CROSS ELASTICITY OF DEMAND

It is ratio of proportionate change in quantity demanded of Y to a given proportionate change in the price of the relative commodity X.

$$C_E = \frac{\text{Proportionate Change in the Qty Demanded Y}}{\text{Proportionate change in the Price of X}}$$

4.4.1 TYPES OF CROSS ELASTICITY OF DEMAND

POSITIVE:

- When goods are substitute of each other then the cross elasticity of demand is positive. E.g. if the price of coca cola increases, this will lead to increase in demand for other aerated drinks. In the figure given below,
- the horizontal axis represents demand for other aerated drinks whereas on vertical axis we measure price of coca cola. If the price of coca cola increases from Rs 40 to Rs 50 then the demand for coca cola will increase from 40 to 50 units.

4.5 INCOME ELASTICITY OF DEMAND:

- It shows the way in which consumers purchase any good as a result of change in his income.

$$I_e = \frac{\% \text{ Change in Demand}}{\% \text{ Change in Income}}$$

- As there is a positive relationship between incomes of the consumer and quantity demanded for coca cola, so we can say that coca cola is a **normal good**. **DETERMINANTS OF INCOME ELASTICITY DEMAND**

1. Level of income:

- In case the income of the consumer exceeds quantity demanded of coca cola will increase and vice versa.

2. Time period:

- The notion of marginal propensity to consume is taken by time period. When the consumers are highly income-earning they possess more propensities to consume and therefore demand of coca cola grows and vice versa.

3. The distinction between necessities and luxuries:

- Necessities are more difficult to substitute and thus the quantity demanded will respond less.

4. Availability of Close Substitutes:

- In case of close substitutes, customers will switch out of costly products and the demand will be inelastic.

5. Definition of the Market:

- The wider we call an item, the more substitutes and the more elastic the demand.

6. Relative Size of Purchase:

- Purchases that make up a very small percentage of total expenditure are likely to be more inelastic, as consumers do not have any qualms with regard to the additional expenditure.

5. METHODOLOGY

-This project relies on both qualitative research and quantitative research since it is necessary to obtain the entire perspective of The Coca-Cola Company. Next, we explain the procedure of data collection, data scoring and data interpretation.

Data Collection:

5.1 Secondary Research:

The market in which Coca-Cola has to compete is oligopolistic, having a small number of large enterprises, and Pepsico is the primary rival of Coca-Cola. What may be observed when examining the article on market structure, is the manner in which Coca-Cola and Pepsi dominate the market, due to the popularity of their brands, and systems that exist to supply their products (**Source: medium.com**).

Coca-Cola is an expensive price elasticity demand as well, with an adjusted price corresponding to a change in the demand occurring because of the numerous alternative substitutes in the market say Pepsi and other soft drinks, which are substitutes of Coca-Cola (Source: Second Paper). Coca-Cola demand is sensitive to other factors, which would include consumer income, government policies and preference of the consumer among others. Whichever the case, it went downhill as their products with pesticides were involved in controversies (**Source: mordorintelligence.com**).

Coca-Cola implements modifications in production when the price and technology differ; therefore, coca-cola has an elastic supply. The improved technology reduces the cost of production and this improves supply is not accompanied by raising the price (**Source: mordorintelligence.com**).

The profit of the firm remained high thanks to the marketing and brand loyalty that a successful campaign of Thanda Matlab Coca-Cola ensured and not criticizing about the prices (**Source: medium.com**).

To supplement these qualitative findings, a quantitative data set was gathered including historical quarterly stock prices, trading volumes, and adjusted close prices of The Coca-Cola Company (ticker: KO) in January 2020 through April 2025. This time-series data allows strict demand prediction and trend analysis with the use of such statistical tools as regression and seasonal adjustment, which increases the accuracy and relevance of the projections made in a study (**internal dataset, 2025**).

5.2 Primary Research:

We therefore decided to...To have a crystal clear picture of consumer behavior and preferences around us in relation to Coca-Cola. This research employed two major research techniques, namely the surveys and interviews.

1. Surveys and Questionnaires

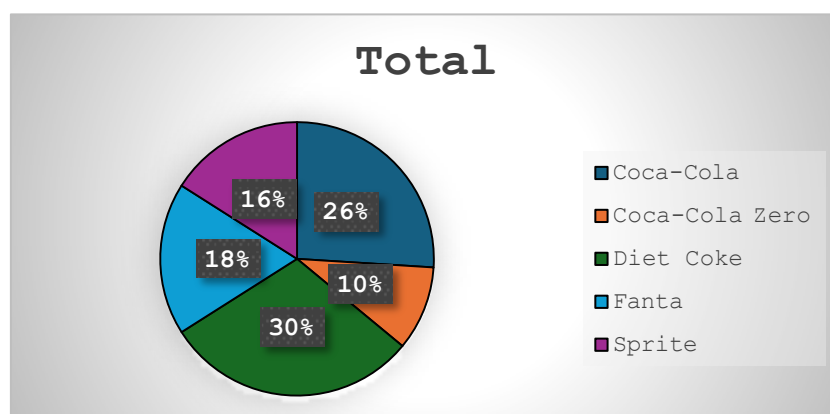
We distributed 50 surveys to consumers who fall in the age range of When we have Coca-Cola drinkers. The Questionnaire was designed to collect the data on:

Brand Loyalty: The extent of customer association or relationship to the Coca-Cola brand and how much they would change brand fairly mainly because of higher price.

Demand Elastic: The consumers reaction to price fluctuations and price elasticity of the demand of Coke.

6. Data Analysis:

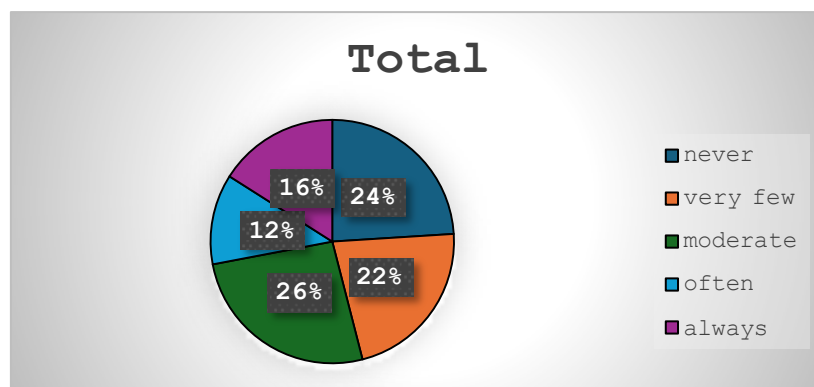
- On the other hand, Economists explain elasticity in terms of how demand reacts to change (depreciation/increase) due to some factor. for example If price is considered than and only Coca-Cola then it can be How have consumer demands Cokes changed as prices of Coke increase or decrease? This will mean looking at long-term price and sales data to calculate the elasticity coefficients.
- **Market Structure Assessment:** We will then turn our analysis to the global markets where we evaluate how Coca-Cola is positioned with market share and competition metrics. The section that we are mainly focusing on is the beverage industry and ways to distinguish oligopoly, monopolistic competition etc. in any other types of market economies.
- **Competition Analysis:** The group will analyze the market share, product line-up, price point and marketing campaign of key competitors such as PepsiCo. This puts the competitive strategy of Coca-Cola in context.
- **Consumer Behavior Analysis:** The third part of the case includes Consumer Behaviour Analysis where we will study consumer trends, preferences and brand loyalty towards Coca Cola through surveys along with secondary data. This will also involve analysis on changing trend towards healthier form of beverages and measures taken by the company in response to the scenario.
- **From the 50 responses we got following analysis:**
 - **1. Favorite Coca-Cola Product:**



- **30% (Diet Coke):** A classic healthy option for the loyalists.
- **26% (Coca-Cola):** Coca-Cola classic is still crushing it.
- **10% (Coca-Cola Zero):** has a lower user base, but draws health-oriented customers
- Market share of flavored drinks, **18% (Fanta)**, and **16%(Sprite)**

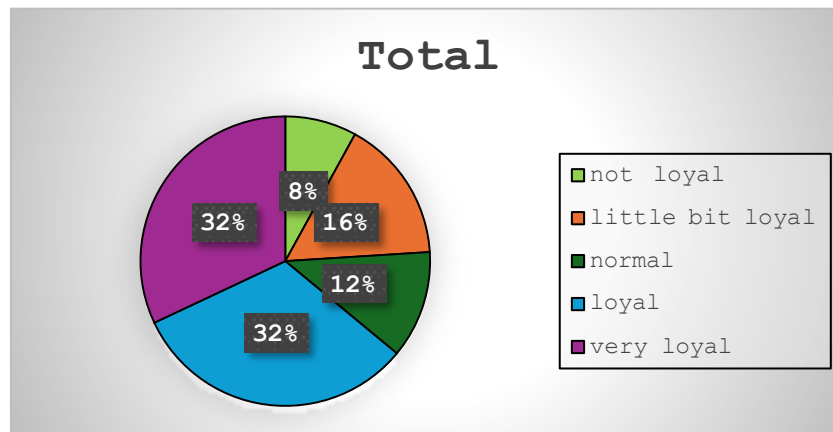
Summary: Diet Coke leads consumer preferences, reflecting a shift toward healthier options. The original Coca-Cola and flavored drinks (Fanta, Sprite) also have substantial popularity, showing product diversification's success.

2. Switching Behavior When Prices Increase



- **24% (Never switch):** Strong brand loyalty, not price-sensitive.
 - **22% (very few switch):** Occasionally influenced by price increases.
 - **26% (Moderate switchers):** Largest group, somewhat sensitive to price changes.
 - **12% (Often switch):** Likely to switch when prices rise.
 - **16% (Always switch):** Highly price-sensitive, frequently switch brands when prices increase.
- **Summary:** About 28% of consumers are highly price-sensitive, while 24+22=46% remain loyal regardless of price increases. Coca-Cola's pricing strategy needs to balance retaining loyal customers and minimizing the impact on more price-sensitive consumers.

3. Brand Loyalty:



- **32% (Very loyal) and 32% (Loyal):** Majority of consumers are strongly loyal to Coca-Cola.
- **12% (Normal):** Neutral loyalty, open to switching.
- **16% (Little bit loyal) and 8% (Not loyal):** Less loyal, prone to switching.
- **Summary:** Coca-Cola enjoys **high brand loyalty (64%)**, but there's an opportunity to engage the **28% of consumers who show less loyalty**, potentially through targeted marketing and loyalty programs.

5. Reporting:

- This data is then synthesized into actionable insights on Coca-Cola's performance, elasticity and market structure. Visualizing with graphs, tables and charts some key findings.
- The analysis then leads to conclusions and recommendations, with respect to how the data can allow Coca-Cola enhance its appeal improve competitiveness within competitive markets.

7. Demand Forecasting

7.1 Dataset Introduction

The study uses a full day-by-day historical stock price of The Coca-Cola Company (ticker: KO), between January 10, 2020, and April 6, 2025. The information contains open, high, low, close, adjusted close prices, and trading volume, reflecting the performance of Coca-Cola in financial cycles, and world events. These rich time-series data can be subjected to strict analysis to support investment research and business forecasting, and are compatible with economic studies and statistical modeling.

Calculation Summary from Table

			Sum of open	Sum of close	Sum of volume	forecasted	ratio	
1	2020	Qtr1	3021.83	3020.22	1151927200	1092245753	1.055	1.010
2	2021	Qtr1	3072.05	3070.27	1210458600	1078246583	1.123	
3	2022	Qtr1	3764.81	3770.44	1230815000	1064247413	1.157	
4	2023	Qtr1	3755.75	3753.91	862082000	1050248243	0.821	
5	2024	Qtr1	3661.50	3664.27	865658000	1036249073	0.835	
6	2025	Qtr1	4000.18	4007.08	1092436000	1022249903	1.069	
7	2020	Qtr2	2913.69	2901.83	1177204700	1008250733	1.168	0.902
8	2021	Qtr2	3428.90	3427.61	886568600	994251563	0.892	
9	2022	Qtr2	3928.72	3930.17	1132624200	980252393	1.155	
10	2023	Qtr2	3859.89	3857.13	828506500	966253223	0.857	
11	2024	Qtr2	3897.12	3899.76	761706000	952254053	0.800	
12	2025	Qtr2	2004.65	2005.77	504149100	938254883	0.537	
13	2020	Qtr3	3076.98	3077.99	963059000	924255713	1.042	0.953
14	2021	Qtr3	3570.98	3567.54	848215000	910256543	0.932	
15	2022	Qtr3	3984.23	3977.66	816540900	896257373	0.911	
16	2023	Qtr3	3783.58	3778.58	771205700	882258203	0.874	
17	2024	Qtr3	4375.95	4382.56	875098200	868259033	1.008	
18	2025	Qtr3				854259863		
19	2020	Qtr4	3309.32	3309.15	935008200	840260693	1.113	1.187
20	2021	Qtr4	3559.90	3563.81	1045281400	826261523	1.265	
21	2022	Qtr4	3802.44	3803.35	841918600	812262353	1.037	
22	2023	Qtr4	3579.11	3578.45	976397100	798263183	1.223	
23	2024	Qtr4	4183.01	4177.62	1018738300	784264013	1.299	
24	2025	Qtr4				770264843		

7.2 Forecasting Equation :

The highlighted table has quarterly information and the columns are Year, Quarter, Total Volume (shares traded), Quarter Number (t) and summations of total Open value. This table will track these important metrics in a period of four years, 2020- 2025, in each of the four quarters (Qtr1-Qtr4).

Forecasting Equation :

The forecasting equation presented is:

$$Volume_{sum(t)} = 1,106,244,923.38 - 13,999,170.02 \times t$$

- Here, t is the quarter number which is the chronological sequence of quarters.
- It is a linear model of forecasting total volume traded within a particular quarter.
- The formula indicates that the linear trend is reducing with about 14 million shares per quarter since approximately 1.106 billion shares at t = 0.

7.2 Demand forecasting and Trend Analysis: Concepts and Methods.

Demand forecasting refers to the estimation of the future demand of a product based on past events, trends and modifying external factors. Operation planning, inventory management, and financial projections in business analytics are important areas that require it.

Trend analysis describes a quantitative technique employed to comprehend how the data in question is moving (in an upward, downward, or stable direction) over a time. In time series forecasting:

The trend is calculated through the use of statistical methods (such as least squares regression) in order to regress a line or curve to the observed values.

It is this trend line that is extrapolated into the future to produce forecasts.

The simplest procedures are to plot real data, approximate the trend equation (e.g., linear $Y = a + bt$), compute predicted values and to assess the precision of the trend model by error measures such as MSE or R^2 .

7.3 Seasonal Adjustment Using the Ratio-to-Trend Method

The Ratio-to-Trend method adjusts time series data to account for seasonality. The process involves comparing actual values to trend (forecast) values and then averaging these ratios to determine seasonal factors for each period.

7.3.1 Steps for Calculation

1. Obtain Trend Forecasts

Develop a trend forecast for each period using a suitable trend equation, such as a linear or exponential regression fitted to your data.

2. Collect Actual Values

Gather the actual observed values (e.g., actual quarterly stock price, volume, or sales data).

3. Compute Actual/Forecast Ratio

For each period, calculate the ratio:

$$\text{Ratio} = \frac{\text{Actual Value}}{\text{Trend Forecaste}}$$

4. Organize Data by Season/Period

Group the ratios according to seasonal period (e.g., all Q1s together, all Januarys together).

5. Calculate Average Ratio per Period

Compute the average ratio for each period (e.g., average all Q1 ratios) to serve as the *seasonal index* for that period:

$$\text{Seasonal Index}(Qtr1) = \frac{\sum(\text{Actual/Forecast})(Qtr1)}{n}$$

6. Apply Seasonal Indices

Multiply the trend forecast for a period by its seasonal index to get the seasonally adjusted forecast:

$$\text{Seasonally Adjusted Forecast} = \text{Trend Forecast} \times \text{Seasonal Index}$$

7.4 Calculation Breakdown for Q3 and Q4 of 2025

1. Q3 2025

- **Calculation for t = 18 (2025 Q3)**
- Forecasted Value (FF): 854,259,863
- Ratio (R): 0.953

$$\text{Seasonally Adjusted Forecast} = \text{Trend Forecast} \times \text{Seasonal Index}$$

$$\text{Seasonally Adjusted Forecast} = 854,259,863 \times 0.953 = \mathbf{814,431,723}$$

- For the third quarter of 2025 (t = 18), the forecasted value for the period was 854,259,863 units, and the seasonal adjustment ratio used was 0.953.
- By multiplying the forecasted value with this ratio, the seasonally adjusted actual value comes out to approximately 814,431,723 units.
- This means that after accounting for the seasonal effect, the realized volume was slightly lower than the trend-based forecast, reflecting the adjusted market demand for Q3.

2. Q4 2025

- Calculation for t = 24 (2025 Q4)
- Forecasted Value (FF): 770,264,843
- Ratio (RR): 1.187

$$\text{Seasonally Adjusted Forecast} = \text{Trend Forecast} \times \text{Seasonal Index}$$

$$\text{Seasonally Adjusted Forecast} = 770,264,843 \times 1.187 = \mathbf{914,530,699}$$

- For the fourth quarter of 2025 (t = 24), the forecasted value was 770,264,843 units, and the seasonal adjustment ratio applied was 1.187.
- Multiplying these yields a seasonally adjusted actual value of approximately 914,530,699 units.
- Here, the positive adjustment ratio indicates a seasonally strong fourth quarter, resulting in the actual outcome significantly surpassing the baseline trend forecast due to heightened demand

Table of calculation:

Quarter	t	Forecasted Value	Ratio	Actual Value
Q3 of 2025	18	854,259,863	0.953	814,431,723
Q4 of 2025	24	770,264,843	1.187	914,530,699

8. LIMITATIONS OF STUDY

Although the given work tries to offer a detailed analysis, the study has a number of limitations, which can influence the extent to which the results can be generalized and thus become accurate:

1. **Debt to Secondary Data:** A considerable part of the research relies on secondary data resources including market reports and published researches as well as industry analysis. Although these can be a great source of information, they might not reflect on the latest trends of the market, the specifics of the region, or the specifics of the consumer behavior patterns.
2. **Small Primary Data Sample:** The actual research carried out using surveys had a very small sample of respondents of 50 people. This will reduce the statistical power, and perhaps curtail the representativeness of consumer preferences and price sensitivity among different demographic groups.
3. **Fault of Lack of Proprietary Company Data:** The research does not use internal Coca-Cola company data, including specific sales data or consumer data, which would add to the accuracy of demand elasticity and forecasting models.
4. **Short Time Horizon in Forecasting:** Despite the fact that the dataset covers 2020 to early 2025, the swift shifts in consumer behavior, regulatory measures and competition can restrict the applicability of the forecasts and trend assessments in the long term.
5. **Possible Methodological Differences:** The sources of secondary data relied on other different methodologies and scopes and may create inconsistency in the synthesis of findings in the report.

9. RECOMMENDATIONS

1. **Improve Competitiveness among Price-Sensitive Buyers:** Use price-sensitive promotions, discounts, and offers as a bundle to ensure that the switching behavior of customers who are highly price-sensitive can be minimized to help retain market share without compromising profitability.
2. **Diversify Healthy and Low-Calorie Product Lines:** Develop, market, and sell new low-calorie and no-calorie beverages including Diet Coke and Coca-Cola Zero faster to keep up with the increasing popularity of more health-aware consumers.
3. **Enhance Brand Loyalty Programs:** Implement and increase loyalty programs, targeted marketing and customer outreach programs to reaffirm consumer dedication and decrease churn, especially with moderately loyal groups.
4. **Support Sustainability Programmes:** Be more prolific in communicating the sustainability work undertaken by Coca-Cola such as water stewardship, plastic waste, and environmentally friendly packaging to attract more eco-conscious consumers and enhance corporate social responsibility profiles.
5. **Diversify and expand online and social Media:** Intensify internet marketing through influencer collaborations and social media platforms to capture younger audiences (ages 18-30) to create brand relevance and consumer interactions with new consumer segments.
6. **Capitalise on Regional Market Insights:** Reconfigure product, and marketing mixes according to local consumption behaviour as well as local economic factors, particularly with regard to emerging markets with increased purchasing power.
7. **Follow Regulatory and Health Trends:** Take the initiative to comply with the changing government regulations and consumer health trends through product innovation and open communication to ensure the preservation of trust and compliance.

10. Conclusion

Coca-Cola remains one of the giants in the worldwide drink business, and it has managed to avoid an intricate and changing market environment. Regardless of the health consciousness trends, regulatory trends, and intense competition, the company has a strong brand equity, a wide product assortment and global presence which provides it with a competitive advantage that many may not be able to replicate.

The discussion points out that Coca-Cola exists in the oligopoly market structure where any change in prices has a tremendous effect on demand because it has substitutes. Nonetheless, its strategic emphasis on diversification of its products, especially the provision of healthier and low-calorie food, fits the changing preferences of consumers, and will place the company in a good position to continue growing.

In addition, intense brand loyalty of coca-cola and effective marketing campaigns enable the establishment of an emotional bond that overcome price sensitivity and market dynamics. The company has been able to enhance sustainability, innovation, and community involvement that reinforces its reputation and relevancy in the contemporary world.

Moving ahead, constant adaptation- by focusing on targeted marketing, product innovation and adopting digital engagement- will ensure that it remains on the top of the leadership ladder. Harmonizing customer needs, trends in the market and environmental responsibility, Coca-Cola is in a good position not only to survive, but to flourish in the future.

Essentially, despite all the changes and challenges in the beverage industry, Coca-Cola comforts, strategic foresight, and innovations with intent keep it freshly ahead of the curve.

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