
Impact of Factors Influencing the Retail Sales in Beverages Industry in India: A Comparative Analysis Pepsi Cola & Coca Cola- An Empirical Evidence.

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ABSTRACT

The first man-made sparkling or carbonated water is credited to Joseph Priestley, the British scientist who discovered oxygen. In 1772 he invented a method of "pushing" carbon dioxide into water by dissolving it under pressure, thus creating fairly long-lasting bubbles. The technique led to development of the soft-drink industry. By the beginning of the 19th century, carbonated water was being made commercially in France and North America; shortly thereafter, flavours (normally fruit concentrates) were added to enliven the taste. Most soft drinks are still carbonated to give drinks a "tangy bite" and to stimulate the tongue. Furthermore, because scent is an important part of taste, the flavours carried as vapours in the bubbles enhance taste. Marketing is about winning this new environment. It is about understanding what consumers want and supplying it more conveniently. Marketing deals with identifying and meeting human needs and social needs. One of the shortest definitions of marketing is "meeting needs profitably". The consumer market may be identified as the market for product and services that are purchased by individuals as household for their personal consumption. soft drinks is a typical consumer product purchased by individual primarily quench their thirst and also for refreshment. Different types of soft drinks are available in the market and more or less content of all soft drinks is same. The market of soft drinks is facing a cutthroat competition and many companies are floating in the market with their product with different brands names. This Paper explains Comparative Analysis of factors influencing the retail sales of Pepsi. Co &Coca Cola.

Keywords: Comparative Analysis. Beverages Industry, Factors, Relationship

JEL Codes: M16, M18, M38, M38.

1. Introduction:

The Cola war refers to Coca-Cola's and Pepsi's mutually-targeted television advertising campaigns in the 1980s, which started with blind taste tests on consumers with the aim of testing whether people preferred one product over the other, and continued with the use of famous spokespersons in promotion of their products. Coca-Cola was founded by Pemberton in 1886 and Pepsi was founded by Celeb Bradham in 1898. Coca-Cola dominated on the market for years, and Pepsi was not a threat. However, when the market expanded and became more profitable, the role of professional advertising became crucial, these two multi-national soda producers have been leading the way in advertising ever since. However, they have taken two extremely different turns in their advertising, where Pepsi has turned more to celebrity endorsement, popular music and young people in their commercials, while Coca-Cola advocates tradition and nationalism, aiming at happiness and togetherness similar to that of their original approach. More precisely, Pepsi's strategy adduces the new and Coca-Cola's the old. However, television advertising is not exclusively used, but they also have unique product packaging.

Comparative Analysis Between Coke and Pepsi:

The Cola war makes it possible for new edgy advertising techniques to be broadcasted in television commercials, and although the two companies use very different marketing strategies, they are both successful in selling their products. Interestingly enough, despite the fact that Pepsi has increased its sales four times quicker than that of its rival, Coca-Cola remains the leading seller. The battle between these two will undoubtedly prolong the cola war, but at the same time bring forth new advertising techniques. The first way to distinguish between a can of coke and Pepsi is the brand color. Cokes come in red cans, while Pepsi comes in blue cans. Though the drink has the same color, the branding is always in the specified red and blue colors.

The tastes of both the drinks are distinct and it is easy to make out the difference. Pepsi is a little more sweet in taste than the coke. This is due to the addition of the artificial sweeteners to it. You will be able to make it right when you take a sip of the drink. The additions of the sweeteners leave a mild chemical taste after you drink it. Compared to Pepsi, coke does not have that chemical after taste owing to the less artificial sweeteners added. When you drink coke you feel more of that cola flavor in it, while with Pepsi, you get a fruity or fluid sort of taste. The carbonation levels of both the drinks also are different. It is higher in coke. So when you take the first sip of the coke, you get that fizzy effect. This frizz is less in Pepsi. The fizzy nature can be identified by the bubbles formed when you first open the bottle or just simply shake. It is more in the coke. And you do get that bubbly taste down your throat with a Pepsi. Coke is smoother. The bubbles disappear quickly as the fizz escapes from the coke.

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2. Review of Literature:

- ❖ **Consumer Advisory: Coca-Cola System Using Recycled Plastic (2021):** An increasing amount of misinformation is being circulated regarding the Coca-Cola system and its use of recycled plastic. Consumers should be aware that the Coca-Cola system is using recycled content plastic in bottles produced for the U.S. marketplace. During the year 2000, we expect to produce several billion PET plastic bottles made with post-consumer recycled content. The system has been the primary user of recycled plastic packaging in the U.S. soft-drink industry for the past 2 years, and we anticipate that our use of recycled content plastic will significantly expand over time.
- ❖ **Coca-Cola cuts prices, Pepsi may follow suit (2021):** Coming at a time when most packaged consumer goods brands have increased prices, the move is being seen as one which will help brand Coke shore up its market share. "Coke as a brand has not been able to garner the same kind of volume growth when compared to its other cola brand Thums Up and rival Pepsi. The price reduction, coupled with good marketing and advertising, could help them prop up sales," said Gautam Duggad, research analyst, Prabhudas Lilladher.
- ❖ **Coca Cola reports 16% volume growth in India (2020):** This Analyses It further said, worldwide brand Coca Cola volume grew 3 per cent for the full year, with growth across diverse markets, including India up 33 per cent, Thailand (31 per cent), Russia (20 per cent), the Philippines (8 per cent), Brazil (3 per cent) and Mexico (3 per cent).
- ❖ **The Coca-Cola Company Expands 5by20 Women's Economic Empowerment Initiative Commenting (2019):** In this Paper explainsthe company's performance Muhtar Kent, Chairman and Chief Executive Officer, Coca-Cola Company said: "In a year marked by continued uncertainty in the global economy, we delivered solid volume, revenue and profit growth, and we realised further volume and value share gains in non-alcoholic ready-to-drink beverages
- ❖ **Sravan Kumar & Boutsouki (2019):** This expansion includes the launch of 5by20 in China in partnership with All China Women's Federation to provide business skills to female retailers, with the initial pilot program underway in Guangxi Province. In Kenya, young women entrepreneurs are receiving business skills
- ❖ **Choudhury & Harrigan (2019):** Initially focused on four pilot countries – Brazil, India, South Africa and the Philippines – the expansion of 5by20 into additional countries demonstrates The Coca-Cola Company's continued commitment to testing, learning and scaling programs in order to reach its ambitious women's economic empowerment goal.
- ❖ **The Coca-Cola Company Joins (RED) to Help Eliminate AIDS (2018):** This Paper has examined CRM was directly affected by knowledge management (KM) and that to customer knowledge management. Soft skills of humans such as change management, knowledge sharing, and team collaboration were the main barriers in information

system implementation

- ❖ **Coca-Cola to take up aggressive campaign for 'Fanta' (2016):** This paper has examined Product customization; website customization & dynamic pricing were the most effected strategies in one to one mode. E-CRM drivers such as alerts, search capabilities, order tracking and problem-solving plays a vital role in customer satisfaction

3. Statement of the Problem:

The first man-made sparkling or carbonated water is credited to Joseph Priestley, the British scientist who discovered oxygen. In 1772 he invented a method of "pushing" carbon dioxide into water by dissolving it under pressure, thus creating fairly long-lasting bubbles. The technique led to development of the soft-drink industry. By the beginning of the 19th century, carbonated water was being made commercially in France and North America; shortly thereafter, flavours (normally fruit concentrates) were added to enliven the taste. Most soft drinks are still carbonated to give drinks a "tangy bite" and to stimulate the tongue. Furthermore, because scent is an important part of taste, the flavours carried as vapours in the bubbles enhance taste. The principle of "pushing" carbon dioxide is still used, but now the water is first purified in a process known as "polishing." Cooled carbon dioxide is then injected at pressures of 275-550 kilopascals.

4. Research Gap:

This research descriptive research because it depends on new Findings. Retailer groups were chosen as respondents for the study. This research involved a study which was descriptive as well as explorative in nature. It basically aims at gathering data about retailer preference of the Cola drinks.

- ® **Source of data collection:** Two source are used for data collection
- ® **Primary data:** Questionnaire, direct interview
- ® **Secondary data:** Internet.
- ® **Sampling Area:** Lalapet, Tirumalgiri and Malkajgiri
- ® **Sample Size:** 100 retailers
- ® **Sampling Technique:** Comparative
- ® **Duration of research:** 45days

4. Research Questions:

- ❖ Provide customer and staff with clear standards and expectations
- ❖ Ensure all customers contact reaches an appropriate conclusion
- ❖ Minimize incidences of repeat contact
- ❖ Seek to provide seam less service for customers
- ❖ Provide equal and easy access to our services at a time, place, channel that meet the needs of residents, businesses, and other stake holders

5. Objectives of the Study:

- ❖ To find out the factors influencing the retail sales of soft drinks.

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- ❖ To present relative positioning of Coke and Pepsi by the retailers.
 - ❖ To find the age group of majority consumers, who are preferring the particular brand of soft drinks.

6. Hypotheses of the Study:

To Study Comparative Analysis of which brand sales are high:

H0: There is no significant relation between brand of soft drinks and its sales.

H1: There is significant relation between brand of soft drinks and its sales.

To Study Comparative Analysis of factors influencing the retail sales of Pepsi. Co & Coca Cola:

Ho: There is no significant change of sales with schemes and margin.

H1: There is significant change of sales with schemes and margin.

To Study Comparative Analysis of age group of customers who buy soft drinks:

H0: There is a no significant relation between customer age and selection of particular brand.

H1: There is significant relation between customer age and selection of particular brand.

7. Research Methodology:

- ❖ Descriptive research is done to specify objectives of the study. Descriptive research is done with **Primary** and **secondary data**. Research methodology is the way to systematically solve the research problem. The method used for the research is Descriptive Research to find out our objectives.
- ❖ **Sample Design** for primary data has been collected through probability sampling. In which **COMPARATIVE SAMPLING** is selected.
- ❖ **Data is Collected** through Market survey in **Tirumalgiri, Lalapet & Malkajgiri** areas of Hyderabad.
- ❖ **Data Collection Instrument:** - Well prepared **structured questionnaires** were used in this study, which includes both closed-ended and few open-ended questions to get information based on the objective of the research process. People of different retailers were asked to fill the questionnaire containing 16 questions.
- ❖ **TEST USED:** T-test and Chi-square test.

8. Need for the study:

The main aim for this research study is to analyze which brand (Pepsi Vs Coke) sales are high in the market and to find the market leader in soft drinks....

9. Scope of the Study:

- ❖ This study is confined to Secunderabad region covering areas (Tirumalgiri and Lalapet) of Radius of 10-15 Kms
- ❖ Expect Coke and Pepsi remaining drinks are not considered in the study.
- ❖ Considering only Pepsi and Coke (200ml, 2ltr, 2.5ltr...etc.)
- ❖ We are not considering water & alcoholic drinks

10. Limitations of The Study:

- ❖ The survey is conducted in few areas in Secunderabad
- ❖ Moreover, my research at the Tirumalagiri and surroundings area
- ❖ Maximum data Collected from the retailers, customers and internet
- ❖ Visited 100 retail stores and it for 45days.
- ❖ The findings are based on the survey conducted In the month of April to May

11. Result and Discussion:

1. To Study Comparative Analysis of which brand sales are high.

H0: There is no significant relation between brand of soft drinks and its sales.

H1: There is significant relation between brand of soft drinks and its sales.

S.NO	Number Of Units Sold Per Day (Coca Cola)	Number Of Units Sold Per Day (Pepsi)
1	29	21
2	54	36
3	49	25
4	22	28
5	500	300
Total	655	410

Mean = (Sum of observations) / (Number of observations)

Mean= $x = 655/5 = 131$

Mean = $y = 410/5 = 82$

So what is x_i ? They are the individual x values 29,54,49. and y values 21,36,25.....

In other words $x_1 = 29$, $x_2 = 54$etc.... and $y_1 = 21$, $y_2 = 36$, $y_3 = 25$.

So it says "for each value, subtract the mean and square the result", like this

No. Of Retailers	Number Of Units Sold Per Day (Coca Cola)	Number Of Units Sold Per Day (Pepsi)
	$(X_i - \mu)^2$	$(y_i - \mu)^2$
1	$(29-131)^2 = 10404$	$(21 - 82)^2 = 3721$
2	$(54-131)^2 = 5929$	$(36- 82)^2 = 2116$
3	$(49-131)^2 = 6724$	$(28-82)^2 = 2916$

4	$(22-131)^2 = 11881$	$(31-82)^2 = 2601$
5	$(500-131)^2 = 136161$	$(300-82)^2 = 47524$
Total	$\sum_{i=1}^N (X_i - \bar{X}_x)^2 = 171099$	$\sum_{i=1}^N (X_i - \bar{X}_y)^2 = 58878$

$$\frac{1}{N} \sum_{i=1}^N (X_i - \bar{X}_x)^2$$

Mean of squared differences = $(1/5) \times 171099 = 34219.8$

$$\sigma_x = \sqrt{\frac{1}{N} \sum_{i=1}^N (X_i - \bar{X}_x)^2}$$

$$\sigma_x = \sqrt{(34219.8)} = 184.98$$

$$\frac{1}{N} \sum_{i=1}^N (X_i - \bar{X}_y)^2$$

Mean of squared differences = $(1/5) \times 58878 = 11775.6$

$$\sigma_y = \sqrt{\frac{1}{N} \sum_{i=1}^N (X_i - \bar{X}_y)^2}$$

$$\sigma_y = \sqrt{(11775.6)} = 108.51$$

The t statistic is calculated as followed:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sigma^{\wedge} (\sqrt{n_1 n_2 / (n_1 + n_2)})}$$

$$\sigma^{\wedge 2} = (n_1 s_1^2 + n_2 s_2^2) / (n_1 + n_2 - 2)$$

$$\sigma^{\wedge 2} = \frac{(655)(58.64)^2 + (410)(108.51)^2}{655 + 410 - 2}$$

$$= \frac{2252315.48 + 4827512.24}{1063}$$

$$= \frac{7079827.72}{1063}$$

$$= 6660.23$$

$$\sigma^{\wedge} = \sqrt{6660.23} = 81.61$$

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sigma^{\wedge} (\sqrt{n_1 n_2 / (n_1 + n_2)})}$$

$$t = 131 - 82 / 81.61 (\sqrt{655 \times 410 / 655 + 410})$$

$$\begin{aligned}
 &= 0.60 \sqrt{252.15} \\
 &= 0.60 \times 15.87 \\
 &= 9.522 \text{ approx..}
 \end{aligned}$$

The number of degrees of freedom is calculated for an m-by-n table as (C-1)(r-1), so in this case (2-1) (5-1) = 1*4 = 4

Obtain table Value: For 4 degree of freedom the table value t- test at significant 0.05 loss = 2.132

Make the decision: Null hypothesis(H₀) is rejected and Alternate hypothesis(H₁) is accepted that means The sales of coke is more than pepsi.

Interpretation: Thesales of Coca Cola products are high than Pepsi due to its excellent taste

2. To Study Comparative Analysis of factors influencing the retail sales of Pepsi Co & Coca Cola.

H₀: There is no significant change of sales with schemes and margin

H₁: There is significant change of sales with schemes and margin.

	Coca Cola	Pepsi	Total
Targets	0	0	0
Schemes	30	40	70
Margin	10	20	30
Compliment gifts	0	0	0
Total	40	60	100

To find the expected frequencies, we assume independence of the rows and columns.

I took row total (70) and column total (40) multiplied them and then divide by the overall total (100).the expected frequency is:

$$40 \times 70/100 = 28$$

$$40 \times 30/100 = 12$$

$$60 \times 70/100 = 42$$

$$60 \times 30/100 = 18$$

	Coca Cola	Pepsi	Total
Targets	0	0	0
Schemes	28	42	70
Margins	12	18	30
Compliment gifts	0	0	0
Total	40	60	100

S.NO	Observed (O)	Expected (E)	O-E	(O-E) ² / E
1	30	28	2	0.142
2	40	42	2	0.095
3	10	12	2	0.333
4	20	18	2	0.222

Total				0.792
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Total of = $(O-E)^2 / E = 0.792$

The number of degrees of freedom is calculated for an m-by-n table as

$(C-1)(r-1)$, so in this case $(2-1)(4-1) = 1*3 = 3$

Obtain table Value: For 3 degree of freedom the table value χ^2 at 5% loss = 7.815

Make the decision: Since the calculated value of χ^2 is less than the table value of chi-square 7.815, as per decision rule, reject the H1 that means Retailers feel schemes and margins are not the driving factors for selling more of a particular brand over the other.

Interpretation: - Retailers will sell those products which is having more demand due to this maximum retailer are selling Coca Cola products, though it has high margin price when compare to Pepsi.

3. To Study Comparative Analysis of factors influencing the retail sales of Pepsi Co & Coca Cola.

H0: There is a no significant relation between customer age and selection of particular brand.

H1: There is significant relation between customer age and selection of particular brand.

	Coca Cola	Pepsi	Total
5-15	10	7	17
15-25	35	12	47
25-45	20	8	28
45-55	5	3	8
Total	70	30	100

To find the expected frequencies, we assume independence of the rows and columns.

I took row total (17) and column total (70) multiplied them and then divide by the overall total (100). the expected frequency is:

$17 \times 70/100 = 11.9$	$17 \times 30/100 = 5.1$
$47 \times 70/100 = 32.9$	$47 \times 30/100 = 14.1$
$28 \times 70/100 = 19.6$	$28 \times 30/100 = 8.4$
$8 \times 70/100 = 5.6$	$8 \times 30/100 = 2.4$

	Coca Cola	Pepsi	Total
5-15	11.9	5.1	17

15-25	32.9	14.1	47
25-45	19.6	8.4	28
45-55	5.6	2.4	8
Total	70	30	100

S.NO	Observed (O)	Expected (E)	O-E	(O-E) ² / E
1	10	11.9	1.9	0.3033
2	7	5.1	1.9	0.7078
3	35	32.9	2.1	0.1340
4	12	14.1	2.1	0.3127
5	20	19.6	0.4	0.000816
6	8	8.4	0.4	0.01904
7	5	5.6	0.6	0.0642
8	3	2.4	0.6	0.15
Total				1.5578

Total of = $(O-E)^2 / E = 1.5578$

The number of degrees of freedom is calculated for an m-by-n table as

$(C-1)(r-1)$, so in this case $(2-1)(4-1) = 1*3 = 3$

Obtain table Value: For 3 degree of freedom the table value χ^2 at 5% loss = 7.815

Make the decision: Since the calculated value of χ^2 is less than the table value of chi-square 7.815, as per decision rule, Null hypothesis is accepted and Alternate hypothesis is rejected.

Interpretation:- Soft drinks are mostly consumed by the youth which is in the age group Of 15-25.

12. Findings of The Study

- ❖ It is found that most of the people like Cola drinks.
- ❖ It is found that Coca Cola is most preferable product in the soft drink which is available in the market.
- ❖ Celebrity plays a vital role for consuming coke.
- ❖ It is found that Television came out to be more effective for aid campaigns as respondent to all age groups who watch television.
- ❖ It is also found that majority of the consumers are of 15-25 age group.

13. Suggestions of The Study:

The whole research shows that there are only two companies dominating in the soft drinks market Coca-Cola and Pepsi. Coca Cola Company is dominated the Pepsi. Co in the market and it Occupied No.1 position in the market and Pepsi. Co is in No.2 Position

14. Conclusion of The Study

- ❖ The Company employees should make direct contact with the consumers.
- ❖ Distributors should be convinced to pass the incentives to the retailers so that they are motivated to promote this brand.
- ❖ Try to increase the margin.
- ❖ Provide more schemes and Compliment gifts.

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