# Decoding The Covert Messages in Advertising: A Semiotics Case Study of Navi Mumbai

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#### **Abstract**

Semiotics is the study of signs and symbols, and how they are used to communicate meaning. It helps advertisers understand how different signs and symbols are interpreted by consumers of different groups. This helps companies in framing messages which can easily convey the exact message to the right target customers and audience. Signs include various colors, shapes, and images to evoke feelings as each of these is associated with specific emotions and feelings. The proper usage of the colors and symbols creates an impact and the advertisement is registered in the audience's mind.

Semiotics gives marketers an effective medium to communicate the meaning past words, utilizing signs and images that help in creating a brand identity and generate brand recall amongst the people. By utilizing components such as logos, colors, and symbolism, marketers make a visual impact that rises above phonetic clutter and encourages prompt acknowledgment. This enhances brand review and differentiation in an increasingly cluttered advertising scene.

Semiotics plays a significant part within the domain of how shoppers see and decipher brand messages. This study aims to study its significant impact on shopper behavior, brand personality, and social reverberation.

The study has been carried out in and around Navi Mumbai. Respondents mainly comprised marketing students, teachers and professionals among others. To understand the preference of consumers in depth, various tests like Chi Square, Anova, regression analysis and t tests were carried out by the researchers. Primarily, they reveal that consumer preference varies across age groups and various elements of semiotics have an impact on brand recognition. The managerial implications of each of the tested objectives have been discussed in detail further in the paper.

Keywords: Semiotics, Signs, Symbols, Logos, Colors, Customers, Brand Recognition.

# I. INTRODUCTION

The link between advertising and consumer behavior has long been a source of debate in the ever-changing environment of modern marketing. The study of semiotics, which interprets the dense language of signs and symbols that pervade our daily lives, is at the core of this deep link. Semiotics is the study of signs and symbols, and how they are used to create meaning and communicate with the audience using the same.

The struggle for customers' attention has never been fiercer in this age of information overload. Advertisers are always looking for new methods to fascinate and influence their target consumers. This is where semiotics in advertising comes into play. Marketers learn about the hidden signals and cues that affect how customers see things and make choices by studying the hidden patterns and meanings behind advertisements. Semiotics is an effective way to communicate the message via colors, logos and symbols and helps in creating a brand identity.

This research paper begins a comprehensive examination of the influence of semiotics on advertising, with the goal of shedding light on the many facets of this relationship. We will look into how semiotics influences customer perceptions, brand recall, awareness, and buying behavior.

Semiotics is not only a powerful analytical tool, but it is also a creative force for advertising. Advertisers can create more powerful and persuasive messages when they understand how symbols and signs can make people feel, communicate cultural nuances, and impact customers, both in their conscious and subconscious minds.

Surprisingly, the influence of semiotics extends beyond aesthetics and creative messaging. We will look into how semiotic aspects impact brand memory, awareness, and purchasing behavior. We hope to explore the relationship between semiotics in advertising and practical business consequences, finally establishing its significant relevance in the current marketing scene.

In conclusion, this research paper embarks on a captivating journey through the realm of semiotics in advertising. We want to find elements of semiotics that may empower advertisers to create a lasting impression in the minds and hearts of their target audiences.

# II. NEED OF THE STUDY

In the context of advertising, semiotics plays a crucial role in shaping consumer perceptions, influencing purchasing decisions, and creating memorable brand identities. Semiotics can help the consumers to identify the hidden messages that may be embedded in advertisements. Advertisers often use subtle cues and symbolism to influence consumers' subconscious minds. By understanding the principles of semiotics, consumers can become more aware of these hidden messages and make more informed decisions about the products and services they are buying. Symbols and signs have the power to evoke emotions and associations in consumers. Advertisements that effectively leverage semiotics can trigger emotional responses that drive consumer engagement. All these aspects are important for advertising agencies so this research may help the agencies in making their advertisements more effective and relatable to consumers.

#### III. SCOPE OF THE STUDY

The scope of a study on the effectiveness of semiotics in advertising is broad and multidimensional. It involves delving into various aspects of how semiotic elements impact advertising campaigns and consumer responses. Some key areas that will be covered in this research paper are Emotional and Cognitive Responses, Brand Identity and Brand Recognition, Future Trends and Innovations, Practical Implications.

#### 1V. LITERATURE REVIEW

#### 4.1 "Persuasive Signs: The Semiotics of Advertising, By Ron Beasley, Marcel Danesi" (Ron Beasley, 2002)

By using verbal, visual, and performative, companies can broaden their reach to their consumers by including (consumer) aspects.

# 4.2 "Semiotics: The Basics by Daniel Chandler." (Chandler, 2022)

The theory of signs is mentioned most often in the subdisciplines of logic and theoretical linguistics.

# 4.3 "Semiotics and Advertising by Jiang Ping Fan" (Fan, 2003)

Semiotic theories and methods help understand consumer attitudes and behavior in relation to popular culture, brands, and how marketing and advertising programs can improve communication with end users. Semiotics involves collecting and analyzing data from various forms of communication, including verbal, visual, and olfactory.

# 4.4 "Semiotic Approach to Analysis of Advertising by Martin Solik" (Solík, 2014)

Sending incorrect messages might really damage your brand. Additionally, it defeats any motives you might have had. We may considerably increase our chances of having a meaningful influence on the lives of our customers and our financial results by adopting the principles of semiotic analysis.

# 4.5 "The Role of Semiotics in Advertising: Communicative Approach Mohd Faizan" (Faizan, 2019)

There exists the denotative and connotative meanings of words and images. Television advertising purposefully emphasizes a higher degree of description. The same preferences are readily apparent when choosing between indicators that are emotionally and logically motivated, as well as between emotionally motivated signs that are favorable and negative. Words that may evoke strong internal mental pictures in people and establish an association.

# 4.6 "Sign Wars: The Cluttered Landscape of Advertising By Robert Goldman, Stephen Papson" (Robert Goldman, 1996)

Today most television viewers have long since acclimated to advertisements. We take them for granted. We decipher ads routinely, automatically, even absentmindedly, in what Walter

Benjamin once called a "State of

Distraction."

# **4.7 "Semiotics in Advertising As A Way to Play Effective Communications by Sri Hesti Heriwati"** (Heriwat, 2017) Everyday life there is no doubt experiencing the communication process that takes place if communicators have an idea; Spoken orally or written language;

Sent through the media to the communicant. Communication is needed in conveying a purpose that contains one of them in the form of advertising.

#### V. RESEARCH GAP

The previous research conducted does not cater to the specific region, there is a lack of research on how these elements are used to communicate specific meanings and messages in the context of a specific city or region. These days advertising has moved to new platforms like augmented reality, virtual reality, artificial intelligence, and social media. The perspective of consumers and their interpretation of the semiotic elements in advertising. What may seem effective and meaningful from the advertiser's perspective might not be perceived in a similar way by the target audience. This could be a result of

geographic and demographic differences. The evolution of advertising according to changing environments such as changing trends and preferences affects the way in which semiotics would adapt and change. This change may happen in the context of social and cultural aspects. Also, understanding how semiotic elements are integrated and adapted across multiple channels need to be studied more effectively. The underlying emotions of the consumers must be understood when the perception of symbols is to be studied. This could help as it would provide feedback to the ad creators as what works for the audience and what does not. This could ensure that ads come up with ideas that resonate with audience on a deeper level.

#### VI. OBJECTIVES:

Following are the objectives of this paper:

- 1) To study the association of demographic variables- Age, Gender and Profession with brand recognition.
- 2) To determine the impact of semiotics in brand recognition.
- 3) To investigate the relationship between logos, colors, and text/ fonts in design materials and assess their impact on viewer preferences.
- 4) To analyze which brand has higher recall/recognition among Mastercard and Cadbury.

# VII. RESEARCH METHODOLOGY

To fulfill the stated objectives, qualitative data was collected to gather in depth insights regarding how semiotics impacts their choices and recall. Then, the collected qualitative data was further quantified through coding. This allowed the researchers to analyze the collected data objectively and uniformly.

Analysis of the data was done with MS Excel's Data Analysis ToolPak.

Following tests have been performed to test the hypothesis: Chi square, ANOVA, Regression analysis and Independent T test.

This research paper follows a descriptive design using a survey method. An attempt has been made to get an in-depth understanding of 'Semiotics and its Impact on Advertising'. As a survey method, descriptive research design will help the researchers identify characteristics in their target market. The population of study comprised the sample size from the area of Navi Mumbai. These characteristics in the population sample can be identified, observed and measured to guide marketing decisions.

In this study an effort has been taken to analyze the collected data and present it in a tabular format for the better understanding to the readers. We have conducted the survey using convenience sampling in order to get organic responses. We have also used standardized methods of data collection in order to ensure that all participants are treated the same.

We ensured that before taking part in the study, participants gave their consent. They were informed of the goals of the study, how their data would be utilized, and any advantages or disadvantages that might arise. It was made sure that privacy of the respondents was maintained. We also were mindful of bias when it entails sensitive topics related to culture, gender or other groups. We aimed for varied participant samples and focused on relevant symbols.

For this study, we have used convenience sampling since this type of sampling involves selecting participants based on their easy availability and accessibility. In this sample design, we will outline the process of using convenience sampling to gather data from a population primarily residing in urban areas.

Data is collected using online structured surveys that were circulated on various social platforms.

#### VIII. DEMOGRAPHIC PROFILE

		Age groups		
Gender	Gen Z (18-26 yrs)	Millennials (27-42 yrs)	Gen X (43-58 yrs)	Total
Female responses	24	4	17	45
Male Responses	35	7	36	78
Total	59	11	53	123

**Table I** Number of females and males in each age group.

		Profession		
Gender	Students	Creatives - designing, advertising &media etc.	Other - business/ service/ homemaker	Total
Female responses	19	4	22	45
Male Responses	31	4	43	78
Total	50	8	65	123

Table II Number of females and males belonging from each profession

Variables	%	Numbers
Gender		
Female	36.6	45
Male	63.4	78
Age		
Gen Z (18-26 yrs)	48	59
Millennials (27-42 yrs	8.9	53
Gen X (43-58 yrs)	43.1	11
Profession		
Students	40.7	50
Creatives - designing, advertising &media etc.	6.5	8
Other - business/ service/ homemaker	52.8	65

Table III Percentage and Number of each respondent of each categorical variable.

# Hypothesis

# Objective 1

**Null Hypothesis (H0)**: There is no association of demographic variables with the brand Recognition. **Alternate Hypothesis (H1)**: There is an association of demographic variables with the brand Recognition.

#### Objective 2

Null Hypothesis (H0): There is no impact on viewer preference based on the semiotics (Logos, color, Text). Alternate hypothesis (H1): There is an impact on viewer preference based on the semiotics (Logos, color, Text).

#### Objective 3

**Null Hypothesis (H0):** There is no impact of Semiotics in Recognition of Brand.

Alternate Hypothesis (H1): There is impact of Semiotics in recognition of Brand. significant difference in brand recognition (or brand recall or semiotics effectiveness) across different professions.

## Objective 4

**Null Hypothesis (H0):** There is no significant difference in brand recognition (or brand recall or semiotics effectiveness) across different professions.

Alternative Hypothesis (H1): There is a significant difference in brand recognition (or brand recall or semiotics effectiveness) across different professions.

# IX. DATA ANALYSIS

#### Data analysis of the first objective:

### Hypothesis set 1.1

**Null Hypothesis:** There is no association between brand recall/recognition and age groups.

Alternate Hypothesis: There is an association between brand recall/recognition and age groups.

It is a two tailed test

The significance value is taken to be 5%. The P value is 0.003 i.e. less than 0.05.

Thus, the null hypothesis is rejected and the alternative hypothesis is accepted.

This implies that brand awareness differs according to the age cohort.

# Hypothesis set 1.2

Null Hypothesis: There is no association between brand recall/recognition and genders.

Alternate Hypothesis: There is an association between brand recall/recognition and genders.

It is a two tailed test

The significance value is taken to be 5%. The P value is 0.057 i.e. greater than 0.05.

Thus, the null hypothesis is accepted and the alternative hypothesis is rejected.

Brand awareness does not differ according to gender.

#### Hypothesis set 1.3

**Null Hypothesis:** There is no association between brand recall/recognition and professions **Alternate Hypothesis:** There is an association between brand recall/recognition and professions.

It is a two tailed test.

The significance value is taken to be 5%. The P value is 0.001 i.e. less than 0.05.

Thus, the null hypothesis is rejected and the alternative hypothesis is accepted.

This implies that brand awareness differs according to the professions.

The given table shows the number of people who were able to recall the brand logo of Coca Cola. The responses have been segregated according to the gender and age cohorts of the respondents.

#### Using SPSS, the following output has been obtained:

# Age Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.310ª	2	.003
Likelihood Ratio	11.508	2	.003
Linear-by-Linear Association	11.190	1	.001
N of Valid Cases	123		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.65.

#### Marketing implications and suggestions

Brand recall across age cohorts has a substantial impact on brand strategy. In the case of Coca Cola, the target market generally comprises younger cohorts i.e. Gen Z and also Gen Y. They typically have less exposure to traditional advertising mediums, Coca Cola may need to focus more on digital and social media marketing strategies. These platforms can increase brand visibility and recall among younger demographics.

On the other hand, older cohorts often have longer exposure to traditional advertising mediums. Therefore, maintaining presence in traditional mediums like television and radio, while also embracing digital transformations can help in reinforcing brand recall among these demographics.

#### Gender

# Chi-Square Tests Asympto

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	3.625ª	1	.057		
Continuity Correction <sup>b</sup>	2.939	1	.086		
Likelihood Ratio	3.689	1	.055		
Fisher's Exact Test				.062	.042
Linear-by-Linear Association	3,596	1	.058		
N of Valid Cases	123				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 19.02.

b. Computed only for a 2x2 table

# **Marketing Implications and suggestions**

From a marketing perspective, the absence of significant differences in brand recall according to the gender implies a universal appeal of the brand. This suggests that gender-neutral marketing strategies are effective for the particular brand i.e. Coca Cola, and resources need not be divided to create gender-specific campaigns.

Consequently, this could lead to cost efficiencies in marketing spend, while still reaching a broad audience. However, it is essential to keep monitoring and analyzing this trend, as consumer behavior and brand perceptions evolve over time.

# Data analysis of the second objective:

According to the objective set in this study, we were trying to find out the Cause-effect relationship between the variables so in order to understand this relation between variables the regression analysis test has been applied.

**Null Hypothesis**: There is no impact of Semiotics in Recognition of Brand **Alternate Hypothesis**: There is impact of Semiotics in recognition of Brand

Significance level is taken to be 5%

It is a two-tail test.

Dependent Variable: Recognition Of Brand

Independent Variable: The Semiotics (Logos, Colors, Text and Font). The following results have been Obtained after the test was conducted:

SUMMARY OUTPUT								
Regression S	tatistics							
Multiple R	0.456774757							
R Square	0.208643179							
Adjusted R Square	0.188693007							
Standard Error	0.258086622							
Observations	100							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	3	2.08982436	0.69660812	10.458215	3.70103E-06			
Residual	119	7.926435803	0.0666087					
Total	122	10.01626016						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%.	ower 95.0%	Upper 95.0%
Intercept	0.678761277	0.084824888	8.00191186	9.115E-13	0.510799527	0.84672	0.5108	0.846723
Logos	0.196989831	0.04751509	4.14583731	6.374E-05	0.102905208	0.29107	0.102905	0.2910745
Colors	0.028886056	0.050401037	0.57312424	0.567642	-0.07091303	0.12869	-0.07091	0.1286851
Text and Font	0.074264622	0.039671582	1.87198538	0.0636636	-0.00428907	0.15282	-0.00429	0.1528183

The above table gives the results related to the variables (logos, Colors, Text and fonts) and its impact on the brand recognition.

# Interpretation

Significance F Value is less than the F value so Null Hypothesis will be rejected.

The Regression equation is as Follows

## $Y = 0.678761277 + 0.196989831x_1 - 0.028886056x_2 - 0.074264622x_3$

The value of R<sup>2</sup> is 20% which implies that 20% variation in Brand Recognition is explained by the Independent Variables (Logos, colors, Text and font).

In this equation 0.67876 is the constant/intercept which means that if the value of beta is unchanged then the value constant will be 0.67876.

Also, there is a positive relation between Recognition of Brand and Colors, Text and Font and positive relation between Recognition of Brand and Logos this also.

The result is also indicating that the three factors (logos, colors, Text, and Font) impact upon the dependent Variable (Recognition of Brand) is insignificant which is clearly indicated from the P value of 0.19 and 0.07 respectively. It is also indicating that the color is impacting the recognition the most.

# Marketing implications and suggestions:

The value of R<sup>2</sup> is less than 70% which means more Independent variables are required in the study. In this case, more types of semiotics can be added such as audio and more visual elements. Also the variables chosen for recognition of brand

are not much significant so some of the other variables can be studied. The variables studied can be effective in the awareness among the audience but for recognition, semiotics are not much important which is being indicated in this study. In this study it can also be analyzed that before going on with the AD campaign the companies can first test the effectiveness of the campaigns and the semiotics used in the AD and accordingly the Campaigns can be launched.

With the help of the results of regression analysis on a study of the impact of semiotics in advertising, marketers can create more effective and persuasive ads that are most likely to resonate with their target audience and achieve their marketing goals.

#### Data analysis of the third objective:

Null hypothesis (H0): There is no impact on viewer preference based on the semiotics (Logos, color, Text)

Alternate hypothesis (H1): There is an impact on viewer preference based on the semiotics (Logos, color, Text).

Two Tail Test

Dependent variable - Viewer Preference Independent variables - Semiotic factors (Logos, colors, Text) Assuming the level of significance as 5% (0.05).

# Using Excel, the following output has been obtained:

Anova: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance		
In your opinion, how effective are the visual elements of an advertisement in creating brand identity? [Logos]	123	162	1.317	0.267		
In your opinion, how effective are the visual elements of an advertisement in creating brand identity? [Colors]	123	158	1.285	0.254		
In your opinion, how effective are the visual elements of an advertisement in creating brand identity? [Text and font]	123	189	1.537	0.447		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	4.623	2	2.312	7.154	0.000896	3.020
Within Groups	118.260	366	0.323			
Total	122.883	368				

# Interpretation

Here, we are using ANOVA single factor since there is one dependent variable and one independent variable. After performing the ANOVA test, the calculated p-value was found to be 0.000896.

Since the calculated p-value (0.000896) is less than the predefined significance level (0.05), we reject the null hypothesis (H0). This means that the data provides strong evidence against the idea that there is no impact on viewer preference based on semiotic factors (logos, colors, text).

Therefore, based on the analysis, we accept the alternate hypothesis (H1). This implies that there is indeed an impact on viewer preference based on semiotic factors, including logos, colors, and text/fonts, in design materials.

In practical terms, this suggests that these design elements (logos, colors, text/fonts) do have a measurable influence on how viewers perceive and prefer design materials. Design choices related to these semiotic factors can significantly affect how an audience responds to visual content.

Now, if we want to determine which of the three elements exerts the most significant influence on viewer preference, we have conducted a T-test. There will be a total of three sets that have been created -

Set 1: Logos vs. Colors

Null Hypothesis (H0): Logo = Color

**Alternate Hypothesis (H1)**: Logo > Color Assuming the level of significance as 5% (0.05).

t-Test: Two-Sample Assuming	Equal Variances	
	In your opinion, how effective are the visual elements of an advertisement in creating brand identity? [Logos]	elements of an advertisement in creating brand
Mean	1.317	1.285
Variance	0.267	0.254
Observations	123.000	123.000
Pooled Variance	0.261	
Hypothesized Mean Difference	0.000	
df	244.000	
t Stat	0.499	
P(T<=t) one-tail	0.309	
t Critical one-tail	1.651	
P(T<=t) two-tail	0.618	
t Critical two-tail	1.970	

The null hypothesis (H0) for this test states that logos have an equal impact on viewer preferences as colors, while the alternative hypothesis (H1) suggested that logos have a greater impact on viewer preferences than colors.

After running the test, the calculated p-value was found to be 0.309. In this case, 0.309 is greater than 0.05 (the significance level). When the p-value is greater than the significance level, we fail to reject the null hypothesis.

Therefore, based on the test results:

The null hypothesis (H0) is accepted.

The alternative hypothesis (H1) is rejected.

Therefore, both logos and colors have an equal impact on viewer preferences.

Set 2: Colors vs. Text

Null Hypothesis (H0): Color = Text Alternate Hypothesis (H1): Text > Color

t-Test: Two-Sample Assuming	Equal Variances	
	In your opinion, how effective are the visual elements of an advertisement in creating brand identity? [Text and font]	elements of an advertisement in
Mean	1.537	1.285
Variance	0.447	0.254
Observations	123.000	123.000
Pooled Variance	0.351	
Hypothesized Mean Difference	0.000	
df	244.000	
t Stat	3.336	
P(T<=t) one-tail	0.000	
t Critical one-tail	1.651	
P(T<=t) two-tail	0.001	
t Critical two-tail	1.970	

The null hypothesis (H0) for this test states that: Color = Text & Font, implying that there is no significant difference between the impact of color and text & font on viewer preferences. The alternative hypothesis (H1) states that Text & Font > Color, suggesting that text and fonts have a greater impact on viewer preferences than colors.

After conducting the test and analyzing the data, the resulting p-value was found to be 0.000.

Since the obtained p-value (0.000) is less than the chosen significance level (0.05), we can conclude the following: The null hypothesis (H0) is rejected because the p-value is significantly lower than the chosen level of significance.

The alternate hypothesis (H1) is accepted.

Therefore, text and fonts play a more influential role in determining viewer preferences in design materials compared to colors.

Set 3: Text vs. Logos

**Null Hypothesis (H0)**: Text = Logo

# **Alternate Hypothesis (H1):** Text > Logo

t-Test: Two-Sample Assuming	Equal Variances	
	In your opinion, how effective are the visual elements of an advertisement in creating brand identity? [Text and font]	In your opinion, how effective are the visual elements of an advertisement in creating brand identity? [Logos]
Mean	1.537	1.317
Variance	0.447	0.267
Observations	123.000	123.000
Pooled Variance	0.357	
Hypothesized Mean Difference	0.000	
df	244.000	
t Stat	2.879	
P(T<=t) one-tail	0.002	
t Critical one-tail	1.651	
P(T<=t) two-tail	0.004	
t Critical two-tail	1.970	

The null hypothesis (H0) states that there is no significant difference between the impact of Text & Font and Logos on viewer preferences, while the alternative hypothesis (H1) states that Text & Font have a greater impact than Logos. After conducting the test and analyzing the data, the resulting p-value was found to be 0.002.

Since the obtained p-value (0.000) is less than the chosen significance level (0.05), we can conclude the following: The null hypothesis (H0) is rejected because the p-value is significantly lower than the chosen level of significance. The alternate hypothesis (H1) is accepted.

Therefore, text and fonts play a more influential role in determining viewer preferences in design materials compared to logos.

In conclusion, the analysis suggests that in Sets 2 and 3, there are significant differences in viewer preferences between colors and text/fonts, and text/fonts and logos, respectively. However, in Set 1, there is no significant difference between logos and colors in terms of viewer preferences. These findings provide insights into the impact of design elements on viewer preferences, which can be valuable for making design decisions.

Furthermore, the most significant finding from the test run is that text and fonts play a major and influential role in shaping viewer preferences. The data strongly indicates that these elements have a substantial impact on how viewers perceive and react to design materials.

Therefore, while logos and colors do contribute to shaping preferences, text and fonts appear to have a more substantial and influential role in determining how viewers respond to design materials.

# Marketing Implication and suggestions:

This finding brings out the importance of carefully considering and selecting text and fonts in design work, as they can significantly impact the overall viewer experience and preference.

While formulating marketing strategies and design efforts, prioritizing the selection and presentation of text and fonts will be beneficial and it must also be ensured that they align with your target audience's preferences.

The content should not only be visually appealing but also legible and relevant. Choose fonts that are easy to read and align with the message you want to convey to your audience.

Maintaining consistency in typography across various marketing materials, such as advertisements, websites, and branding collateral, is crucial. This consistency will help reinforce your brand identity and create a more memorable and recognizable presence.

# Data analysis of the fourth objective:

Null Hypothesis (H0): The brand recognition of Mastercard is not better than that of Cadbury Alternative Hypothesis (H1): The brand recognition of Mastercard is not better than that of Cadbury

Variable 1 Range: Mastercard brand recognition Variable 2 Range: Cadbury brand recognition Assuming the level of significance as 5% (0.05).

T-test: Two Sample assuming equal variances

#### **Interpretation:**

	Mastercard	Cadbury
Mean	2.9593496	2.2357724
Variance	0.0557110	0.5259230
Observations	123.0000000	123.0000000
Pooled Variance	0.2908170	
Hypothesized Mean Difference	0.0000000	
df	244.0000000	
t Stat	10.5223454	
P(T<=t) one-tail	0.0000000	
t Critical one-tail	1.6511225	
P(T<=t) two-tail	0.0000000	
t Critical two-tail	1.9697340	

In this two-sample t-test, the data was analyzed to assess whether there's a significant difference in the brand recognition of two brands namely, Mastercard and Cadbury.

Variance of the first group is 0.055 and the second group is 0.5259 which means there is more variation in response to the second group. Pooled variance is used to estimate overall variability across the two groups.

Degree of freedom is 244 and it is calculated based on sample sizes and helps determine critical values for tstatistic. The t-statistic is the calculated value that measures how many standard errors the sample mean is away from the null hypothesis mean (which is 0 in this case)

Furthermore, the p-value of 0, which is well below 0.05. This shows that there is a statistically significant difference between the two brands' recognition. It can therefore be concluded that there is a meaningful difference and reject the null hypothesis (H0).

#### Marketing implications and suggestions:

The brands can use consistent branding across various platforms and on all channels. Doing this would help the customers to easily associate the shapes and colors used by the brand to recall the brand. Brand identity plays a vital role as consistent usage of the same elements would sub consciously get registered in a person's mind and this would create the brand image and association.

The brand needs to also be consistent with the message being conveyed and play with the color psychology to evoke certain emotions with respect to the brand target.

#### X. LIMITATIONS:

Semiotics strongly relies on interpretation, which can be very individualized. Advertising signs and symbols may be interpreted differently by various viewers, which could result in confusion or misunderstandings.

When symbols are used in advertising, using semiotics could result in misunderstandings or cultural insensitivity if diverse target markets do not all understand symbols in the same manner.

Overanalyzing every component of an advertisement runs the risk of producing cluttered and perplexing messaging.

- •It necessitates a thorough understanding of semiotic theory, which not all marketers may have at their disposal. Costs for research and analysis may rise as a result of this complexity.
- •A detailed semiotic examination can require a lot of resources. It calls for patience, knowledge, and perhaps the assistance of specialized researchers or experts.

#### XI. MANAGERIAL IMPLICATIONS AND SUGGESTIONS

- 1.) To have the maximum impact on the audience, companies can use sonic as well as more visual elements.
- 2.) The said elements can be used for evoking emotional responses and creating connection with the brands.
- 3.) The companies can use new colors for association with the brands rather than generalizing and using the primary colors.
- 4.) The brands should focus on the type of medium through which they deliver their messages, according to the age group they are targeting.

5.) By using appropriate copy (Text & Fonts), the companies should convey clear messages and offerings to their target audience to avoid miscommunication in the process.

#### XII. CONCLUSION

In conclusion, our comprehensive study on Decoding the covert messages in advertising: A Semiotics Case Study of Navi Mumbai indicates that for the success of an organization advertising plays an important role and in turn for the success of the advertisement i.e., for brand awareness, brand promotion, and sales for the business, semiotics plays a crucial role. Firstly, our study revealed that brand recall does indeed differ across age cohorts, indicating that generational preferences and experiences play a significant role in the effectiveness of advertising. Similarly, we found that gender can also influence brand recall.

Furthermore, our analysis demonstrated a weak correlation between age groups and brand recognition, underlining the importance of semiotics in creating memorable brand identities. We also explored the intricate interplay between logos, colors, and text & fonts in design materials, showcasing its collective impact on viewer preferences. Although the semiotic elements are used in advertisement which is very evident from our study, some of the elements play a crucial role in connecting and engaging with the audience. Also, from the tests conducted it was concluded that out of all the elements text & fonts play a significant role in advertisement as it gives a clear message and there are lesser chances of misperception. Also, we delved into the influence of media choices on the use of visual elements in advertisements, recognizing the need for adaptable strategies to cater to diverse advertising platforms.

This research paper can be further used for future analysis and some of the neuroscientific approaches can be applied to this study. Thus, various other elements can be explored resulting in exploratory research.

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