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Exploring the Intersection of Subliminal Perception and Digital Marketing

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Abstract: *Subliminal refers to stimuli that operate below the threshold of conscious perception. Subliminal advertisements target the subconscious, where consumers may not consciously assess the content. However, their impact becomes apparent through indirect observations, such as the influence on emotions, the effect on cognitive processes, the ability of consumers to consciously evaluate these ads, the level of excitement and engagement with characters portrayed in subliminal ads, and various other aspects. This research delves into the intersection of subliminal perception and digital marketing, seeking to unravel the subtle influences that impact consumer behaviour in the digital realm. By employing a comprehensive methodology that includes surveys, content analysis, and hypothesis testing, the study aims to explore how individuals perceive and respond to subliminal cues embedded in digital marketing content. Ethical considerations guide the research process to ensure transparency and consumer well-being. A sample size of 126 participants, encompassing both male and female youths aged 18-30, was selected from diverse professional and non-professional backgrounds. The findings contribute valuable insights into the complex interplay between subliminal perception and digital marketing strategies, offering implications for marketers aiming to enhance user engagement, brand perception, and overall effectiveness in the online landscape.*

Keywords: *Subliminal, Digital Marketing, Subliminal stimuli, Cognitive response, Brand Perception.*

I. INTRODUCTION

Over the past 80-90 years, hundreds of experiments have demonstrated that people are impacted by some latent information found in advertisements. Science fiction literature has made "subliminal perception"—a phenomenon—more widely recognized. A subliminal message is an aural or visual cue that is delivered so quickly or softly that the audience is unable to notice it. Subliminal messaging literally translates to "below threshold." Subliminal messaging has been the subject of ongoing study in the social sciences, psychology, and biological sciences, including management. A well-known study conducted in the 1950s by James Vicary revealed that a subliminal message in a commercial, "Drink Coke, Eat Pop Corn," increased sales at refreshment boxes after movies (Russell, Rowe and Smouse, 1991).

Subliminal techniques have been used since the 1950s and have been utilized to influence consumer behaviour as well as boost sales. Subliminal messages can also induce anxiety, which leads people to reduce their anxiety by abusing drugs, smoking, or overindulging in food. Messaging one-to-one or one-to-many is the foundation of persuasion. When you can successfully ingrain a message in the minds of individuals or groups that you want to influence without their conscious awareness of the change, you can use subliminal persuasion to motivate them to naturally share the concept with their friends. The goal of subliminal persuasion is to persuade people to alter their opinions, their beliefs, and their acceptance of new information as true and important enough to propagate. Subliminal persuasion is used in religion, public relations, marketing, advertising, propaganda, and negotiation.

II. REVIEW OF LITERATURE

Moore (1982) offers an assessment of the evidence and reasoning presented to endorse the efficacy of different subliminal advertising strategies. These methods are believed to impact consumer behaviour by unconsciously changing preferences or attitudes towards products intended for consumers.

Karremans, J. C., Stroebe, W., & Claus, J. (2006) conducted a research in which James Vicary's purported success in increasing Coca Cola and popcorn sales through subliminal messages was debunked as a hoax, with no replication of his findings. This article presents two experiments investigating the impact of subliminal priming of a drink brand on consumer choices, particularly moderated by thirst. Results showed that subliminal priming of a drink brand like Lipton Ice positively influenced choice and intention to consume the primed brand, but only among thirsty participants.

Gaelle M Bustin et al,(2012) research offered proof that personality traits linked to responsiveness to conscious cues had a comparable effect on responsiveness to unconscious reward cues. The focus was on investigating how individuals respond to unconscious cues. Findings revealed that individuals with low Novelty Seeking traits exhibited enhanced performance when exposed to unconscious information, whereas those with high Novelty Seeking traits demonstrated similar performances when exposed to subliminal and conscious cues.

Liwei Hsu Yen & Jung Chen (2020) researched on the effectiveness of subliminal advertising on consumer behaviour. The results of this study reveal that participants' selection of hotels would be significantly affected by the subliminal stimuli of a smiling face emoji. Meanwhile, neuroscientific data identifies significant differences between participants' two (theta and beta) out of five bands of brainwaves while they were viewing hotel videos with and without the subliminal message.

III.RESEARCH METHODOLOGY

The present study primarily relies on primary data collected from selected respondents. This crucial data was gathered through a structured survey tool. Researcher developed a questionnaire, which was distributed among the participants, and collected after a set period. In total, responses from 126 respondents (n=126) in Kerala were obtained. These participants were chosen through convenience sampling. The data retrieved from these respondents was then analyzed using key statistical techniques, including percentage analysis, Independent sample t-test, along with calculations of mean, standard deviation by using SPSS Software.

A. Objectives of the Study

- 1) Investigate the impact of subliminal marketing on customer's feelings, emotions and beliefs.
- 2) Examine customers' perceptions of the actions and emotions portrayed in subliminal advertisements, as well as their potential engagement in such behaviors.

B. Percentage Analysis

TABLE I
PERCENTAGE OF GROUP OF RESPONDENTS

| AGE GROUP (Years) | NO. OF RESPONDENTS | PERCENTAGE (%) |
|--------------------|--------------------|----------------|
| 18-20 | 34 | 27 |
| 21-23 | 62 | 49.2 |
| 24-26 | 13 | 10.3 |
| 27-30 | 17 | 13.5 |

Interpretation: The table I presents data on age groups of respondents. The majority (49.2%) fall within 21-23 years, followed by 18-20 years (27%). Those aged 27-30 years represent 13.5% of respondents, while 24-26 years make up the smallest group at 10.3%. The distribution shows a focus on younger age ranges.

TABLE II
PERCENTAGE ANALYSIS OF FEELINGS BY RESPONDENTS WHEN EXPOSED TO DIGITAL MARKETING CONTENT

| FEELINGS | NO. OF RESPONDENTS | PERCENTAGE (%) |
|---------------|--------------------|----------------|
| Very Positive | 13 | 10.3 |
| Positive | 45 | 35.7 |
| Neutral | 64 | 50.8 |
| Negative | 3 | 2.4 |
| Very Negative | 1 | 0.8 |

Interpretation: The table II shows respondents' feelings toward digital marketing content. The majority (50.8%) feel neutral about it, while 35.7% express positivity. A small percentage (13.1%) have very positive or negative views. This data indicates a mixed sentiment towards digital marketing content, with a substantial proportion holding neutral opinions.

TABLE III
COGNITIVE RESPONSES OF RESPONDENTS EXPOSED TO DIGITAL MARKETING MESSAGES

| Particulars | Digital marketing messages often influence my thoughts. | | I am aware of the subliminal messages in digital content. | | I believe digital marketing can shape my perceptions without me consciously realizing it. | |
|-------------------|---|----------------|---|----------------|---|----------------|
| | Number of Respondents | Percentage (%) | Number of Respondents | Percentage (%) | Number of Respondents | Percentage (%) |
| Strongly Disagree | 10 | 7.93 | 11 | 8.73 | 15 | 11.90 |
| Disagree | 13 | 10.31 | 27 | 21.42 | 24 | 19.04 |
| Neutral | 56 | 44.44 | 51 | 40.47 | 44 | 34.92 |
| Agree | 39 | 30.95 | 31 | 24.6 | 35 | 27.77 |
| Strongly Agree | 8 | 6.34 | 6 | 4.76 | 8 | 6.34 |
| Total | 126 | 100 | 126 | 100 | 126 | 100 |

Interpretation: The table III provides insights into respondents' attitudes towards digital marketing influence and subliminal messages. A significant portion (44.44%) feels neutral about digital marketing messages affecting their thoughts, while a substantial minority (37.29%) agrees or strongly agrees with this possibility. Regarding awareness of subliminal messages, a sizeable proportion (45.03%) disagrees or strongly disagrees. Similarly, opinions vary on whether digital marketing can shape perceptions subconsciously, with nearly half (54.69%) either neutral or disagreeing. This highlights diverse views and awareness levels regarding the potential impact of digital marketing and subliminal messaging on individuals' thoughts and perceptions.

IV. DATA ANALYSIS AND INTERPRETATION

To investigate the impact of subliminal marketing on customer's feelings, emotions and beliefs.

H01: Individuals exposed to subliminal advertisements are expected to express identical emotions.

H1: Individuals exposed to subliminal advertisements are expected to express varied emotions.

TABLE IV
GROUP STATISTICS OF INDIVIDUALS EXPOSED TO SUBLIMINAL ADVERTISEMENTS AND INDEPENDENT SAMPLE T-TEST
RESULT FOR TEST BETWEEN GENDER AND EMOTION

| Group Statistics | | | | | |
|--------------------------|--------|----|------|----------------|-----------------|
| | Gender | N | Mean | Std. Deviation | Std. Error Mean |
| Awareness and Perception | Male | 51 | 2.55 | 0.901 | 0.126 |
| | Female | 75 | 2.43 | 0.619 | 0.071 |

TABLE V
INDEPENDENT SAMPLE T-TEST RESULT FOR TEST BETWEEN GENDER AND EMOTION

| Group Statistics | | | | | |
|-----------------------|--------|----|------|----------------|-----------------|
| | Gender | N | Mean | Std. Deviation | Std. Error Mean |
| Cognitive Component 1 | Male | 51 | 3.12 | 1.013 | 0.142 |
| | Female | 75 | 3.21 | 0.963 | 0.111 |
| Cognitive Component 2 | Male | 51 | 3.02 | 1.068 | 0.149 |
| | Female | 75 | 2.91 | 0.961 | 0.111 |
| Cognitive Component 3 | Male | 51 | 3.16 | 1.027 | 0.144 |
| | Female | 75 | 2.85 | 1.135 | 0.131 |

1) Data Analysis

- t-values: The t-values for both analyses are close to zero and positive, indicating a slight tendency of one group having higher 'Awareness and Perception' scores than the other. However, the t-values are not large enough to indicate a statistically significant difference.
- p-values (Sig. 2-tailed): In both analyses, the p-values (0.368 and 0.401) are substantially greater than 0.05, indicating that the observed differences in mean scores between the two groups are not statistically significant.
- Confidence Intervals: The 95% confidence intervals in both cases span from negative to positive values, including zero. This further supports the lack of a statistically significant difference, as zero difference lies within the interval.

2) Interpretation

Based on the results of the Independent Samples t-Test and the adjustment for unequal variances, there is no statistical evidence to reject the null hypothesis (H_0). Thus, it is concluded that individuals exposed to subliminal advertisements do not exhibit statistically significant differences in their expressed emotions (as measured under 'Awareness and Perception'). The data do not support the alternative hypothesis (H_1) that individuals will express varied emotions when exposed to subliminal advertisements. This conclusion holds under the assumption that 'Awareness and Perception' appropriately measures the emotional responses in question.

B. To examine customers' perceptions of the actions and emotions portrayed in subliminal advertisements, as well as their potential engagement in such behaviours.

H_{02} : Individuals exposed to subliminal messages in digital marketing will report identical cognitive responses.

H_2 : Individuals exposed to subliminal messages in digital marketing will report distinct cognitive responses.

TABLE VI

GROUP STATISTICS OF INDIVIDUAL'S COGNITIVE RESPONSES AND INDEPENDENT SAMPLE T-TEST RESULT FOR TEST BETWEEN GENDER AND COGNITION

| Independent Samples t-Test | | | | | | | | | | |
|----------------------------|-----------------------------|---|-------|------------------------------|--------|-----------------|-----------------|-----------------------|---|-------|
| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Awareness and Perception | Equal variances assumed | 7.185 | 0.008 | 0.904 | 124 | 0.368 | 0.122 | 0.135 | -0.146 | 0.390 |
| | Equal variances not assumed | | | 0.844 | 81.534 | 0.401 | 0.122 | 0.145 | -0.166 | 0.411 |

TABLE VII
INDEPENDENT SAMPLE T-TEST RESULT FOR TEST BETWEEN GENDER AND COGNITION

| Independent Samples Test | | | | | | | | |
|-----------------------------|--------------------------------|------------------------------|---------|------------------------|--------------------|---------------------------------|--|-------|
| | | t-test for Equality of Means | | | | | | |
| | | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Differenc e | 95% Confidence Interval of the Difference | |
| | | | | | | | Lower | Upper |
| Cognitive Component 1 | Equal variances assumed | -0.536 | 124 | 0.593 | -0.096 | 0.178 | -0.449 | 0.258 |
| | Equal variances not assumed | -0.531 | 103.829 | 0.597 | -0.096 | 0.180 | -0.453 | 0.262 |
| Cognitive Component 2 | Equal variances assumed | 0.619 | 124 | 0.537 | 0.113 | 0.182 | -0.248 | 0.474 |
| | Equal variances not assumed | 0.607 | 99.814 | 0.545 | 0.113 | 0.186 | -0.256 | 0.482 |
| Cognitive Component 3 | Equal variances assumed | 1.530 | 124 | 0.129 | 0.304 | 0.198 | -0.089 | 0.696 |
| | Equal variances not assumed | 1.560 | 114.294 | 0.122 | 0.304 | 0.195 | -0.082 | 0.689 |

1) Data Analysis

- For all three components (Cognitive Component 1, 2, and 3), the p-values associated with the t-tests are greater than the typical significance level of 0.05.

- Therefore, we fail to reject the null hypothesis (H02) for all components by gender.

The results suggest that there is no statistically significant evidence to support the claim that there are differences in cognitive responses based on gender among individuals exposed to subliminal messages in digital marketing, based on the data and the statistical analyses conducted for each cognitive component.

2) Interpretation

Based on the results of these **t-tests** by gender, there is insufficient evidence to conclude that exposure to subliminal messages in digital marketing results in differing cognitive responses between males and females across the three cognitive components tested.

V. FINDINGS

The major findings of the study conducted by applying percentage analysis, weighted average analysis and hypothesis testing are:

- 1) Male and female individuals exposed to subliminal advertisements do not exhibit statistically significant differences in their expressed emotions.
- 2) Exposure to subliminal messages in digital marketing does not result in differing cognitive responses between males and females across the three cognitive components tested.

VI. CONCLUSIONS

The research study titled "Exploring the Intersection of Subliminal Perception and Digital Marketing" yielded several key findings. Firstly, it was observed that male and female individuals exposed to subliminal advertisements did not display statistically significant differences in their expressed emotions.

This indicates that gender may not be a determining factor in how individuals respond emotionally to subliminal advertising stimuli. Secondly, the study revealed that exposure to subliminal messages in digital marketing did not lead to differing cognitive responses between males and females across various cognitive components tested. This suggests that cognitive processing of subliminal messages appears to be consistent across genders.

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