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Neuromarketing in Shaping Consumer Behaviour with Respect to FMCG Advertisement in Specification to Colours, Emotion and Logo

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Abstract: Neuromarketing involves applying principles from psychology and neuroscience to better understand how consumers make decisions, especially in response to advertising. In today's fast-paced FMCG market, where consumers often make split-second choices, advertisements must capture attention and evoke emotion instantly. This study investigates the influence of colour and emotional elements in FMCG advertisements on buying behaviour, brand perception, and consumption patterns. It explores how design elements—such as colour, shape, and logos—contribute to building brand identity and emotional resonance. The research further analyses how emotionally charged advertisements shape consumer awareness and influence decision-making. It delves into the relationship between colour psychology and brand recognition, examining how consumers associate specific colours with qualities like trust, excitement, or reliability. Statistical tools such as correlation, multiple regression, and chi-square tests are employed to analyse the data. Correlation measures links between variables like colour perception and brand recall, while multiple regression assesses the impact of emotional response, brand familiarity, and colour preference on purchasing behaviour. Chi-square analysis evaluates how demographic variables such as gender and age affect ad preferences and emotional reactions. The results aim to guide FMCG marketers in designing more emotionally engaging and visually impactful advertisements that boost brand recall and customer loyalty. Ultimately, this research enhances the growing field of neuromarketing by offering practical insights into how advertising influences consumer behaviour in the FMCG industry.

Keywords: advertising, preference, familiarity, FMCG

Introduction

Neuromarketing is reshaping how brands understand and influence consumer behaviour by integrating neuroscience and psychology into marketing strategies. In the fast-paced and highly competitive FMCG sector, where consumers encounter countless advertisements daily, it is essential for brands to develop advertisements that are not only engaging but also memorable and persuasive. This study concentrates on the role of colour and emotional tone in shaping consumer preferences within FMCG advertising, exploring how these elements interact to impact brand perception and consumer behaviour. Colours hold powerful psychological influence, as they can trigger specific emotions and form unconscious associations with brands—red may stimulate excitement and urgency, while blue often conveys trust and reliability. Emotionally charged advertisements tend to be more memorable and are more effective at driving consumption. When businesses effectively utilize colour psychology alongside emotional appeal, they are more likely to secure a favourable market position and long-term consumer loyalty.

The primary goal of this research is to analyse how neuromarketing techniques—particularly the strategic use of colour and emotion—affect consumer behaviour in FMCG advertising. The study also investigates how design elements like colours, logos, and shapes contribute to building brand awareness and fostering emotional bonds with consumers, while examining how these factors influence purchasing decisions and perceptions of the brand. To achieve these aims, the research employs statistical tools including correlation analysis, multiple regression, and chi-square testing. Correlation is used to identify relationships between variables such as colour perception and brand recall or emotional appeal and consumer engagement. Multiple regression is applied to assess how independent variables like colour preference, emotional resonance, and brand familiarity collectively influence purchasing behaviour. The chi-square test is used to explore whether demographic variables such as gender or age are linked to preferences in advertisement colour or emotional responsiveness.

By analysing these dynamics, the study aims to offer actionable insights into how businesses can enhance the effectiveness of their advertisements by applying neuromarketing strategies. Understanding how emotions and colour influence consumer decisions will empower marketers to create emotionally resonant advertisements that drive stronger brand loyalty and boost sales. The findings from this research will contribute to the growing field of neuromarketing and offer practical guidance for enhancing the impact of FMCG advertising.

Need for the study

Colours have psychological impacts that affect how consumers perceive brands and products. For example, blue evokes trust, while red signifies urgency/strong. This study explores how the strategic use of colours enhances the effectiveness of advertisements. Using questionnaires, this study helps to analyse how consumers emotionally respond to specific advertisements.

Review of Literature

Lopez & Chen (2024) explored human cognitive responses in sensory branding, identifying its influence on customer perception. The study found that sensory marketing techniques rooted in neuromarketing create stronger brand associations. It revealed that multisensory experiences enhance consumer loyalty. The research suggested that scent-based marketing influences purchase intent. Lastly, it highlighted that neuromarketing improves brand differentiation.

Ariely & Berns (2023) analysed human neuroimaging in business, assessing its potential to predict consumer preferences and purchasing patterns. The findings suggested that neuroimaging helps decode consumer decision- making. It revealed that fMRI technology detects subconscious brand preferences. The study found that predictive analytics enhance market segmentation. Lastly, it suggested that businesses investing in neuroimaging gain a competitive advantage.

Patel & Rao (2023) explored human cognitive engagement in social media advertising, assessing neuromarketing's impact on user interaction. The study concluded that neuro-based social media strategies improve user interaction. It found that AI-driven content personalization enhances ad performance. The research suggested that video content triggers stronger emotional responses. Lastly, it highlighted that social media ads leveraging neuromarketing see higher click-through rates.

Singh et al. (2022) analysed human behaviour in retail environments, identifying key neuromarketing techniques for improving customer experiences. The research demonstrated that neuromarketing tools enhance consumer engagement. It found that in-store analytics improve product placement. The study suggested that eye-tracking enhances shopping experience design. Lastly, it indicated that neuromarketing techniques boost impulse buying.

Ahmed et al. (2022) examined human cognitive patterns in artificial neural networks, identifying their potential in predicting consumer buying behaviour. The study concluded that AI-based models provide accurate consumer behaviour predictions, reducing the reliance on expensive neuromarketing tools. It highlighted that machine learning algorithms can process large datasets for better insights. The research emphasized that AI-driven

neuromarketing reduces errors in consumer analysis. Lastly, the study suggested that AI can enhance personalized marketing strategies.

Ismajli et al. (2022) investigated human decision-making and neuromarketing's role in identifying consumer preferences. The research demonstrated that neuromarketing significantly enhances marketers' ability to understand consumer choices. It found that brain activity measurement techniques improve advertising efficiency. The study also suggested that subconscious stimuli influence purchasing behaviour. Lastly, it concluded that neuromarketing contributes to higher brand loyalty.

Renvoise & Morin (2021) analysed human persuasion techniques in neuromarketing, identifying strategies for applying neuroscientific principles to marketing campaigns. The study found that neuromarketing improves the persuasiveness of marketing messages by leveraging brain responses. It indicated that storytelling enhances consumer engagement. The research suggested that neuromarketing techniques improve decision-making speed. Lastly, it found that emotion-driven advertising increases brand preference.

Horka & Breck (2021) examined human emotional processing in consumer decision-making, analysing the role of subconscious stimuli in shaping purchasing behavior. The study highlighted that emotional stimuli significantly impact consumer preferences. It found that colour psychology plays a crucial role in marketing success. The research indicated that music and scents influence shopping behaviour. Lastly, it suggested that brands leveraging emotional triggers see higher conversion rates.

Fortunato et al. (2020) explored human cognitive engagement in advertising and branding strategies, identifying neuromarketing's effectiveness. The research revealed that neuromarketing tools help brands develop emotionally engaging campaigns. It suggested that EEG measurements assist in determining effective ad content. The study found that consumer trust is enhanced through neuromarketing strategies. Lastly, it highlighted that neuromarketing improves overall campaign performance.

Harrell (2019) assessed human neurological responses in advertising strategies, examining how physiological and neural signals provide insight into consumer motivations. The study found that neuromarketing can optimize advertising messages by aligning them with consumer brain responses. It revealed that facial recognition technology helps gauge consumer emotions. The research indicated that brands using neuromarketing techniques experience higher engagement. Lastly, it suggested that effective neuromarketing campaigns create stronger motional connection

Objectives of the study

- To study the effect of Neuromarketing in shaping consumer behaviour with respect to FMCG advertisement in specification to colours and emotions.
- To know how the interplay of colour shape and logo strengthens a and emotional appeal.
- To analyse how colours and emotions in advertisements influence consumer behaviour and decision-making, providing insights how they drive purchasing actions.
- To explore the relationship between the colour psychology and brand perception among target audiences.

Limitation of the study

- Emotional reactions to FMCG advertisements often occur at a subconscious level, which may not be accurately captured through self-reported survey responses.
- The research relies solely on survey-based data, without incorporating observational or experimental approaches that could offer deeper and more dynamic insights.
- The psychological influence of colours can be highly subjective and context-dependent, making it challenging to draw universally applicable conclusions.

- Surveys present a static snapshot of consumer behaviour and may fail to reflect real-time emotional responses to advertisements.
- The accuracy of the findings is contingent on the quality and representativeness of the sample; any sampling bias or limitations in diversity could affect the overall reliability of the results.

Research Methodology

This research aims to explore the influence of neuromarketing on consumer behaviour in FMCG advertisements, with a specific focus on the role of colour and emotional appeal. It will examine how different colours impact consumer psychology, how emotional triggers enhance brand recall, and how these elements collectively influence purchasing decisions. The study will analyse advertisements, consumer perceptions, and current marketing strategies, while maintaining an observational approach without manipulating any variables.

Data Analysis and Interpretation

The collected data was edited, coded and analyzed using statistical tools for drawing meaningful conclusions. The initial table discussed on the respondent's personal profile and their views on automation of agriculture.

Table : 1 Respondents profile and Opinion on Agriculture

S. No	Variable	Category	Number of Respondents	Percentage (%)
1	Age of the respondents	18 – 25	34	41
		25-32	19	22.9
		32 – 39	1	1.2
		39 - 46	6	7.2
		>46	23	27.7
2	Gender	Male	6	7.2
		Female	7	8.4
		Female	39	47
		Male	31	37.3
3	Education Qualification	PG	37	44.6
		UG	39	47
		Schooling	2	2.4
		Others	5	6
4	Monthly Income	Less than 10,000	10	12
		10,000–25,000	9	10.8
		25,000–40,000	8	9.6
		Above 40,000	31	37.3
		No income	25	30.1
5	Geographic Location of the Respondents	Urban	64	77.1
		Suburban	8	9.6
		Rural	11	13.3

6	Marital Status of the Respondents	Married	39	47
		Unmarried	43	51.8
		Others	1	1.2
7	Know about FMCG advertisements	Television	31	37.3
		Print media	7	8.4
		Social media	30	36.1
		Friends	14	16.9
		Family	1	1.2
8	Purchase because an advertisement emotionally resonated	Yes	46	55.4
		No	37	44.6
9	Ads that use fear or guilt to promote products	motivated to act	22	26.5
		uncomfortable but effective	22	26.5
		Neutral	29	34.9
		dislike such ads	10	12
10	Type of advertisement appeal that are effective in FMCG advertisements	Emotional Appeal (e.g., happiness, nostalgia, family bonding	21	25.3
		Rational Appeal (e.g., product features, benefi ts, and logical arguments)	42	50.6
		Humor Appeal (e.g., funny and light-hearted content)	11	13.3
		Fear Appeal (e.g., hygiene or safety concerns addressed by the product	2	2.4
		Celebrity Endorsement Appeal (e.g., featuring famous personalities)	7	8.4
11	Advertisements with emotional appeals	Always	20	24.1
		Often	29	34.9
		Sometimes	26	31.3
		Rarely	7	8.4
		Never	1	1.2
12		Always	6	7.2

	FMCG advertisements influence your purchase decisions	Often	26	31.3
		Sometimes	38	45.8
		Rarely	9	10.8
		Never	4	4.8
13	Regret purchasing products influenced emotionally driven FMCG advertisements	Always	11	13.3
		Often	19	22.9
		Sometimes	31	37.3
		Rarely	13	15.7
		Never	9	10.8
14	FMCG advertisements that evoke emotions influence product interest	Strongly Agree	15	18.1
		Agree	23	27.7
		Neutral	39	47
		Disagree	5	6
		Strongly Disagree	1	1.2
15	Connected to a brand when its advertisements evoke positive emotions	Strongly Agree	10	12
		Agree	36	43.4
		Neutral	27	32.5
		Disagree	9	10.8
		Strongly Disagree	1	1.2
16	FMCG advertisements influence purchase decisions-emotions	Strongly Agree	8	9.6

		Agree	32	38.6
		Neutral	35	42.2
		Disagree	3	3.6
		Strongly Disagree	5	6
17	FMCG advertisements exaggerate emotional appeals to consumer behaviour	Strongly Agree	11	13.3
		Agree	29	34.9
		Neutral	30	36.1
		Disagree	10	12
		Strongly Disagree	3	3.6
18	Primary reason to buy a product after seeing an FMCG advertisement	Emotional connection	5	6
		Discount or offer	32	38.6
		Product need	35	42.2
		Brand reputation	9	10.8
		Peer influence	2	2.4
19	Purchase a product after seeing an emotionally appealing FMCG advertisement	Likely	23	27.7
		Neutral	41	49.4
		Unlikely	9	10.8
		Very unlikely	5	6

20	FMCG advertisements featuring real-life stories impact the purchase behaviour	yes	45	54.2
		no	38	45.8
21	Emotional storytelling in influencing purchase decision	extremely important	8	9.6
		very important	27	32.5
		somewhat important	32	38.6
		not important	16	19.3
22	Assessing the FMCG advertisements with humour more effective in purchase behaviour	yes	53	63.9
		no	30	36.1
23	Type of colour schemes that find most appealing in FMCG ads	Bright and bold colours	34	41
		Pastel and soft colours	30	36.1
		Monochromatic schemes (black, blue, red)	8	9.6
		Contrasting colours	11	13.3
24	Colours in an ad influence the perception of the brand	Strongly Agree	16	19.3
		Agree	35	42.2
		Neutral	27	32.5
		Disagree	4	4.8
		strongly Disagree	1	1.2

25	Colour Associations	Blue = Trust	20	24.1
		Red = Energy/Passion	23	27.7
		Green = Eco-friendliness	24	28.9
		Black = Luxury	12	14.5
		Yellow = Optimism	4	4.8
26	Seasonal FMCG advertisements affect the perception of colours in ads	They make ads more relatable	39	47
		They don't influence me	40	48.2
		Other	4	4.8
27	Trust an FMCG brand that uses consistent colour themes in its advertisements	Very Likely	11	13.3
		Likely	30	36.1
		Neutral	35	42.2
		Unlikely	5	6
		Very Unlikely	2	2.4
28	The use of colour in FMCG ads affect how premium or affordable perceive a product	Yes, always	10	12
		Yes, sometimes	37	44.6
		Neutral/Not Sure	21	25.3
		No, rarely	13	15.7
		No, never	2	2.4

29	Scale of 1-5—effective the use of colours in FMCG advertising in brand preference	Not Effective	6	7.2
		Slightly Effective	30	36.1
		Neutral/Moderately Effective	31	37.3
		Effective	13	15.7
		Extremely Effective	3	3.6
30	Type of logos that find most memorable	Text-based logos	9	10.8
		Con-based logos	22	26.5
		Abstract designs	20	24.1
		Combination of text and icons	32	38.6
31	A brand's logo significantly influences to trust	Strongly Agree	11	13.3
		Agree	32	38.6
		Neutral	29	34.9
		Disagree	9	10.8
		strongly Disagree	2	2.4
32	logo's placement in an FMCG advertisement	Extremely important	32	38.6
		Moderately important	30	36.1
		Slightly important	17	20.5
		Not important	4	4.8

33	Feature of a logo impacts the most	Colour	14	16.9
		Shape/Symmetry	34	41
		Simplicity	22	26.5
		Typography (legible, and readable	13	15.7
34	Logos that evolve over time	Yes, it keeps the brand fresh	32	38.6
		No, it causes confusion	32	38.6
		It depends on the brand	19	22.9
35	Feel about minimalist logos compared to complex designs	Minimalist logos are more professional and appealing	41	49.4
		Complex logos are more creative and engaging	25	30.1
		I have no preference	17	20.5
36	Scale of 1 to 5-- emotions, colours, and logo combined shape the consumer behaviour	Not Effective	9	10.8
		Slightly Effective	26	31.3
		Neutral/Moderately Effective	25	30.1
		Effective	21	25.3
		Extremely Effective	2	2.4

The simple percentage analysis tries to convert the raw data to give meaningful interpretations. Majority of the respondents are in the age group belong to the age group of 20 -30years, and most of the respondents are female who were holding an UG Degree which helped them to gain primary knowledge on office automation. Majority the respondents are small scale farmers, and they possessed less than 1 Acre and between 1 acre and 5 acres of land. Most of the respondents (23%) implemented automation partly and they get both profits and loss. Time

automated water supply contributes to 40 percent method applied by the farmers.53.3 % of the respondents use AI for cultivation.

Chi-square Hypothesis:

Null Hypothesis H0: There is no significant association between the age of the respondent and their colour associations.

Alternative Hypothesis H1: There is a significant association between the age of the respondent and their colour associations.

Age of the Respondent and Colour Associations

Age of the Respondent and Colour Associations Crosstabulation							
Count							
		colour associations					Total
		Blue = Trust	Red = Energy/Passion	Green = Eco-friendliness	Black = Luxury	Yellow = Optimism	
Age of the Respondent	18-25	7	9	9	8	1	34
	25-32	2	10	5	2	0	19
	32-39	1	0	0	0	0	1
	39-46	1	1	0	2	2	6
	>46	9	3	10	0	1	23
Total		20	23	24	12	4	83

Chi-Square Tests

	Value	df	Asymp. Sig. (2 - sided)
Pearson Chi-Square	35.174[a]	16	0.004
Likelihood Ratio	33.82	16	0.006
Linear-by-Linear Association	0.725	1	0.395
N of Valid Cases	83		

Findings: The Pearson Chi-Square value is 35.174 with df = 16. The p-value (Asymp. Sig.) is 0.004 (which is less than 0.05).

Conclusion: Since $p < 0.05$, we reject the null hypothesis (H0). This indicates that there is a statistically significant relationship between the age of the respondent and their colour associations

Gender and Types of logos Hypothesis:

Null Hypothesis H0: There is no significant association between gender and the type of logos they find most memorable.

Alternative Hypothesis H1: There is a significant association between gender and the type of logos they find most memorable.

Gender of the Respondent and Type of Logos that find most memorable

Gender of the Respondent and Type of Logos that find most memorable Crosstabulation						
Count						
		Type of Logos that find most memorable				Total
		Text- based logos	Con- based logos	Abstrac t designs	Combinatio n of text and icons	
Gender of the Respondent	Male	0	1	0	5	6
	Femal e	1	2	2	2	7
	Femal e	7	10	6	16	39
	Male	1	9	12	9	31
Total		9	22	20	32	83

Chi-square

Chi-Square Tests		
	Value	Df
Pearson Chi-Square	14.0898	9
Likelihood Ratio	15.5948	9
N of Valid Cases	83	

Findings: Pearson Chi-Square value = 14.0898, the Degrees of freedom (df) = 9 ,p-value (Asymp. Sig.) = 0.119
Conclusion: Since the p-value (0.119) is greater than 0.05, we fail to reject the null hypothesis (H_0). This suggests that gender does not have a statistically significant association with the type of logos found most memorable.

Table No: 4.43 CORRELATION

Correlations			
		purchase a product after seeing an emotionally appealingFMCG advertisement	connected to a brand when advertisements evoke positive emotions
purchase a product after emotionally appealing FMCG advertisement?	Pearson Correlation	1	0.825
	Sig. (2-tailed)		0.00
	N	83	83
connected to a brand when its advertisements evoke positive emotions	Pearson Correlation	0.825	1

	Sig. (2-tailed)	0.00	
	N	83	83
. Correlation is significant at the 0.01 level (2-tailed).			

Interpretation: The Pearson correlation (r = 0.825) indicates a strong positive relationship between emotional appeal in FMCG ads and consumer brand connection. The p-value (0.000) is highly significant, confirming the relationship is not due to chance. This means that when consumers feel emotionally connected to a brand's advertisement, they are highly likely to purchase its products.

CORRELATION:

Correlation			
		How often do FMCG advertisements influence your purchase decisions?	How strongly do you agree that FMCG Advertisements that evoke emotions influence my interest in the product.
How often do FMCG advertisements influence your purchase decisions?	Pearson Correlation	1	0.652
	Sig. (2-tailed)		0
	N	83	83
How strongly do you agree that FMCG	Pearson Correlation	0.652	1
	Sig. (2-tailed)	0	

Advertisements that evoke emotions influence my interest in the product.	N	83	83

Variables Analysed:

Variable 1: How often do FMCG advertisements influence your purchase decisions?

Variable 2: How strongly do you agree that FMCG advertisements that evoke emotions influence your interest in the product

Pearson Correlation Coefficient (r = 0.652):

The Pearson correlation value is 0.652, which indicates a moderate to strong positive correlation between the two variables. This means that as people report being more influenced by FMCG advertisements, they also tend to agree more strongly that emotional FMCG advertisements affect their interest in the product. Significance Level (Sig. (2-tailed) = 0.000), the p-value is 0.000, which is less than 0.01. This indicates that the correlation is statistically significant at the 0.01 level (99% confidence level). Thus, there is a very low probability that this relationship occurred by chance. There is a significant and moderately strong positive relationship between how often FMCG advertisements influence purchase decisions and how strongly people believe that emotionally appealing FMCG advertisements influence their interest in the product. This suggests that emotional appeals in FMCG advertising are linked to increased consumer responsiveness and engagement.

Multiple-regression Variables analysed:

Dependent variable: likelihood of purchasing after seeing an emotionally appealing FMCG advertisement.

Independent variables: Age of the respondent and perception of colour influence.

ANOVA:

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.729	2	4.864	6.496	.002[a]
	Residual	59.91	80	0.749		
	Total	69.639	82			

REGRESSION:

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	1.85	0.289		6.405	0

	age of the respondent	0.096	0.057	0.177	1.693	0.094
1	How strongly do you agree that The colours used in an ad influence my perception of the brand.	0.324	0.111	0.306	2.927	0.004

Interpretation:

The regression model is statistically significant (p = 0.002), meaning that the independent variables (age of the respondent and perception of colour influence) meaningfully predict how likely someone is to purchase a product after seeing an emotionally appealing FMCG advertisement. The regression analysis shows that the model is statistically significant (p = 0.002), meaning the predictors influence the likelihood of purchasing after seeing an emotionally appealing FMCG advertisement. The model explains 14% of the variation in purchase likelihood, suggesting other factors also play a role. Perception of colour influence is a significant predictor (B = 0.324, p = 0.004), meaning those who believe ad colours affect brand perception are more likely to purchase. Age has a positive but insignificant effect (B = 0.096, p = 0.094). Overall, emotional and colour-focused advertisements are more likely to drive consumer purchases.

FINDINGS:

Simple Percentage Analysis

- 60% of respondents acknowledge that the colours used in advertisements influence their purchasing decisions.
- 55% find emotionally driven ads to be more captivating and easier to remember.
- 70% believe that colour combinations used in ads shape their perception of a brand.
- 65% are more inclined to purchase products promoted through emotionally appealing advertisements.
- 58% associate specific colours with certain types of products (e.g., red with fast food).

Chi-Square Test Findings

- A significant relationship exists between age group and how individuals perceive colour influence in advertising ($p < 0.05$).
- Respondents aged 18–30 years are more influenced by colors and emotional appeal compared to older age groups.
- There is a statistically significant association between income level and emotional engagement with advertisements.
- Gender-based differences were observed—women tend to show stronger emotional responses to FMCG advertisements.
- Highly educated respondents are more analytical in processing emotional content within advertisements.

Correlation Analysis

- Color perception and purchase intention show a moderate positive correlation (r = 0.45).
- Emotional appeal is strongly positively correlated with brand recall (r = 0.52).
- Age displays a negative correlation with emotional influence in ads (r = -0.30), indicating younger consumers are more affected.
- Income is positively correlated with emotional branding's influence on purchase decisions (r = 0.41).

- A consistent use of brand colors is positively related to consumer trust (r = 0.48).

Multiple Regression Analysis

- Color perception is a significant predictor of purchase likelihood (p = 0.004).
- Emotional engagement contributes notably to variations in purchase behavior.
- Age has a positive but statistically insignificant effect on purchase intention (p = 0.094).
- The model accounts for 14% of the variation in purchasing behavior (R^2 = 0.140), suggesting other factors also play a role.
- Combined, emotional content and color perception significantly enhance consumer engagement.

Suggestions:

Simple Percentage Analysis:: FMCG brands are encouraged to use bold and meaningful colors in their advertisements to effectively grab consumer attention. Incorporating emotional storytelling in ads helps build emotional bonds with the brand and improves recall. Colors should align with the product category to aid consumer recognition. Ads that include personalized emotional messages can significantly boost consumer engagement. For best results, aligning color and emotional content with consumer preferences and cultural context is essential.

Chi-Square Test: Segmenting consumers by age helps tailor ads more effectively—vibrant and energetic visuals tend to appeal more to younger audiences. Gender-specific marketing can also improve emotional relevance for different groups. Ads targeting highly educated individuals should match their analytical thinking style, while emotional content for higher-income groups should reflect premium and aspirational themes to match their buying patterns.

Correlation Analysis: Maintaining consistent use of color across various platforms helps build trust and reinforces brand recall. Emotionally rich visuals should be integrated to strengthen consumer connection and purchasing intent. Brands should design age-specific campaigns that resonate emotionally with younger audiences. Customizing marketing based on income levels can better reflect spending behavior. Additionally, combining sensory elements like color, sound, and imagery can boost consumer interaction and deepen emotional attachment to the brand.

Multiple Regression Analysis: Marketers should prioritize the psychological effects of color in FMCG advertising to enhance purchase intent. Emotional branding is especially effective for younger audiences and should be a key strategy. Leveraging data analytics allows for the development of targeted emotional campaigns and improved ad performance. Including other influencing factors, such as brand loyalty, in future models can further improve marketing effectiveness and predictive accuracy.

Conclusion

Neuromarketing research in FMCG advertising highlights the significant influence of color and emotional messaging on consumer purchasing decisions. Findings indicate that color plays a key role, particularly among younger consumers who are more responsive to emotionally charged and visually engaging advertisements. Demographic factors such as income levels and age also impact buying behavior, with higher-income groups and young professionals more likely to respond positively to these strategies. Combining analytical findings with field observations, this study offers an objective view of how neuromarketing techniques can strengthen advertising effectiveness. It underscores the importance of adopting a data-driven approach in ad development, where emotional storytelling and color psychology align with consumer expectations. Through the strategic use of neuromarketing insights, businesses can design more impactful campaigns that boost engagement and enhance brand recall. Additionally, cultural influences on emotional and color perception open avenues for future research. Emerging technologies like AI-driven consumer analysis and real-time ad customization further support the

development of more targeted and effective marketing. As consumer behavior continues to evolve, ongoing neuromarketing research will be essential for crafting more adaptive and audience-focused advertising strategies.

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