

An analytical view on color influencing consumer: paper advertisement - a study in Pune region

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Abstract – Color is one of the important element in product and stimulates and influencing consumer buying behaviour. Consumer responds to the different colors based on the psychological implications and biological stimuli. The potential application denotes that how the optimum use of certain colors would stimulate certain age group members. In the study various color were used to decode its impact on consumers. More focused was to reveal the color that affects age group. Different age groups respondents were studies, based on the type of color that influenced the respondents in addition to understand whether age group has any preferential colors. However, every influencing factors does not indicate customer's preferences or buying of product or brands, so this study also reveals whether the liking of color when used in paper advertisement, has any relation with the customer preferences in the product, keeping the product as an unknown brand. The study was carried out through primary data collection and secondary information on various studies on color psychology. The random sampled data of 120 sample size, was collected using questionnaire tool, mostly non-verbal questions were framed. The data was further treated with One Way-ANOVA and Chi-Square test method to prove the hypothesis. Additionally, graphical method over cross tabulation is used to analyse the influenced age group. Finally, inferences and conclusion were drawn based on the findings of the study.

Keywords - Color, Consumer Preferences, Consumer Influences, Paper Advertisements.

I. INTRODUCTION

Brain and human developmental physiology governs human decision. Development of physiology is the effects of surroundings and associations. Study on consumer buying behaviour is highly complicated since different customers with various beliefs and influences. Color being a one of the factor to stimulate buying process became an important aspect of studies. According to research there is a strong relations and connotation behind different colors and human psychology. Understanding this association helps the marketer, in strategizing effective marketing implications i.e. This color stimulus can be decode various minds of consumer and in return become very helpful to understand diverse customer.

The physiological arousal is vital to the success of advertisement. Thus, marketers/advertisers use colors that are more appealing and infusing customers. In other words, Human brain is linked to the cerebral cortex, which marketers try to make the use of, to activate brains. The more impact of advertisement psychological is through use of right and effective use of combinations of colors. Thus, the evaluative appeal of colors should be considered while selecting any color. Various studies have been carried out to find out or to know favourable colors in advertisement. However, it should also be noted that colors do have distinctly different meaning across cultures, moreover in international boundaries (Shi, 2013).

II. REVIEW OF LITERATURE

Based on the evidence, the proposed framework is further elaborated so that it could better capture the connections between color and consumers' product experiences. Hence, the paper supports the significance of the functions emphasized by past research and uncovers the qualitative connections between packages color meanings and product type. HanneleKauppinen-Räisänen, & Harri (2010)

Jurič, Vuković, & Šuput (2014) studied that colors influence the purchasing decision-making process and that women have a better perception of color in the process of consumer behaviour. Special attention is given to the influence of colors when purchasing sustainable ecological food products. Since sustainable development is nowadays a global trend it was the authors intention to establish a correlation between colors and sustainable development. The research was carried out as a combination of web survey and 'face to face' interaction (ratio 70:30) on a relevant sample of 200 respondents; women accounted for 60%, and men 40% of respondents, 18 to 55 years of age. The aim of the research was to find out consumer behaviour related to the influence of color in the purchasing decision-making process about products based on sustainable development. There is an approach with which we prove the thesis that colors hold a high position in the value system when making a purchasing decision. There is a problem that consumers when buying food products with characteristics of sustainability, apart from products' eco component also look for a stamp of traditionalism. The originality of the research model is reflected in the fact that the research was based on the influence of colors when purchasing food products, which unlike conventional products have the characteristics of sustainability.

Aghdaie & Honari (2014) studied psychological impact of colors on the process of consumer shopping behavior. This research aims at practical ends and benefits from a descriptive-survey method. In order to collect information, library method has been used. A researcher-made questionnaire has been utilized to study psychological impact of colors on the process of consumer shopping behavior. The statistical population was a number of customers of Refah chain store in Isfahan city. Simple random sampling was used to determine the amount of the sample. Based on this, 80 questionnaire sheets were divided among the customers. Conclusion color effects the buying behavior.

Babolhavaeji, Vakilian, & Slambolchi (2015) discussed that the most important factor to attract customers in today's world is the product's color that manifests more in product's packaging. Packaging a product is the combination of various elements each of which can be effective in creating a certain image in the minds of consumers. Color is the first and most important factor in the attractiveness of packaging. The purpose of this study is to address the difficulties facing managers and packaging designers and transfer the messages intended by the organization through the product's color. A greater understanding of the impact of the visual aspects enables them to direct the content of their messages in a better way and find a more appropriate place against the competing products. In this study, the researcher has attempted to review the relevant research papers and explain the reasons of color importance in attracting the customer. In this research, the consumer behaviour, the factors influencing the behaviour and the relevance of color element have been carefully examined; and then the feature of different colors and their functions and roles in marketing has been described. The results of this study show that colors can have different connotations in different cultures and ethnicities.

The findings determined that while consumers appear somewhat indifferent between colors, there is a greater preference for neutral colors as opposed to cold and warm colors in bottled water packaging. It was also determined that income has a significant influence in color preference for bottled water, with lower income groups preferring cold and warm colors and higher income groups preferring neutral colors (Beneke, Mathews, Munthre, & Pillay, 2015).

Researcher, Javed, & Javed (2015) aimed to test whether product's packaging color influences customers' purchasing preferences or not and does time pressure moderates this relationship? It studied the importance of color in determining customers' buying preferences when they have limited time to do shopping. This study revealed that buying preference of a customer is relatively more dependent on the color scheme than on time constraint. However, time pressure was an important moderating factor which influenced the effect of packaging colors on customers' purchasing preferences. This study emphasized that companies cannot afford to ignore the significance of time constraints and color scheme of the products on customers' buying behavior.

III.OBJECTIVE

1. *To understand the relationship between demographic(age)group and choice of colors.*
2. *To identify type of color that influence demographic(age)group of Pune region, in the paper advertisement.*
3. *To reveal the importance of color in customer's product selection among unknown brands.*

IV.METHODOLOGY

Primary and Secondary methods were used for data collection. Primary data was collected from 120 respondents with the simple random sampling method. Questionnaire tool was used to collect the data; 5 closed ended questions were framed and the impact of color, and age group were studied. Secondary data was collected through exhaustive study of different research websites, journals and research papers; national and international. The data was treated with One-way ANOVA, Chi-Square method to prove the association of variables and in testing up of hypothesis. Additionally, cross tabulation and graphical method was used to reveal the age group that was more influenced by colors. Inference were drawn accordingly.

V.HYPOTHESIS TO BE TESTED

1. Different color influence different age group persons.
2. For any unknown brand, the age group preferences are based on the color of paper advertisement.

VI. FINDINGS OF THE STUDY

1. *Different color influence different age group persons.*

H_0 = Age group does not have any influence by the type of color used in paper advertisements.

H_1 = Age group are influence by the type of color used in paper advertisements.

Table No. 1 : Observed Value

Colors	Black	Blue	Gray	Orange	Yellow	Green	Red/Pink	Purple	Brown	Total
<18	8	1	0	3	3	1	4	3	0	23
18-25	6	11	5	9	9	6	16	8	0	70

>25	3	1	0	2	6	2	9	4	0	27
Total	17	13	5	14	18	9	29	15	0	120

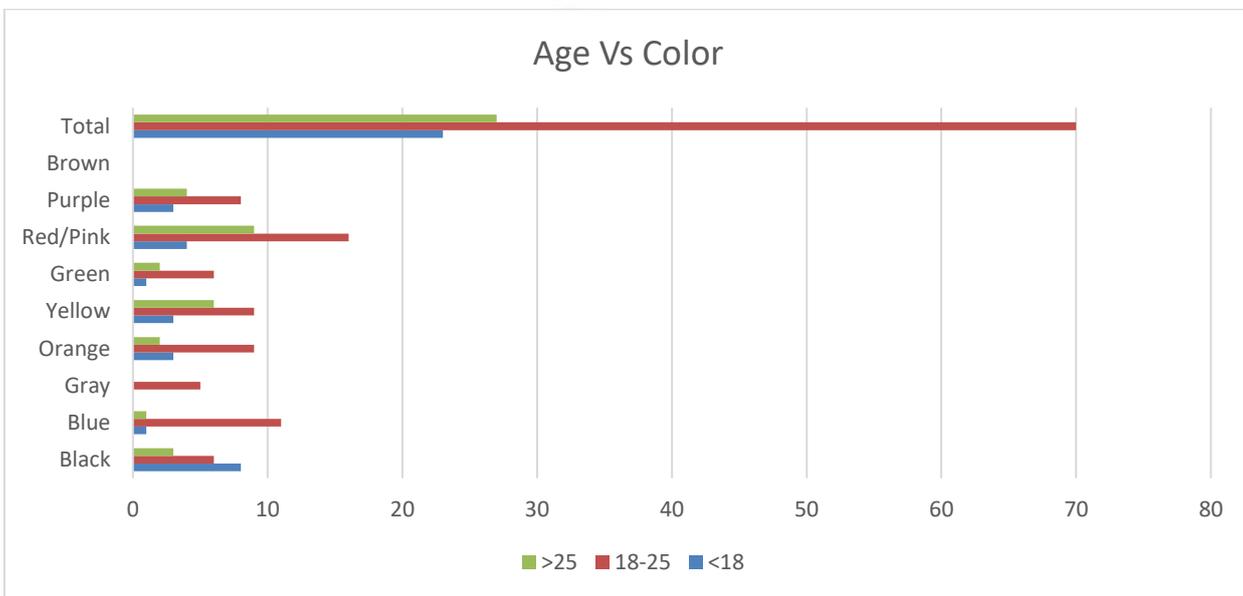
Table No. 2 : One Way ANOVA Calculation

Source of Variation	SS	df	MS	F-Ratio	Critical Value F (at 5%)
Between sample	65	8	8.125	29.25	f(8,18)=2.51
Within sample	5	18	0.27777778		
Total	70	26			

The calculated F-value (29.25) is more than critical value (2.51 @5% level), accordingly there is enough evidence of rejecting null hypothesis, and accepting the alternate hypothesis i.e. H_1 is accepted. This proves that Different age group are influence by the type of color used in paper advertisements. Hence our hypothesis, Different color influence different age group persons is accepted and proved.

2. To identify type of color that influence demographic(age)group of Pune region, in the paper advertisement .

Figure 2: Age-Group Vs. Color Preferences



The above graph depicts different age group which gets affected by different color of the paper advertisement. The different color bar that has a greater shown in the graph indicates the influence of color in different age group persons. More details of the above graph are shown in the below table

Table No. 3 : Age-Group and Color Preferences.

Age Group/ Colors	Black	Blue	Gray	Orange	Yellow	Green	Red/Pink	Purple	Brown	Total
<18	35	4	0	13	13	4	17	13	0	100
18-25	9	16	7	13	13	9	23	11	0	100
>25	11	4	0	7	22	7	33	15	0	100

The above table indicates that in the age group of below 18 years, 35% of the persons are influenced by black color, this is followed by 17% of the respondents had red/pink color influences. However, orange, purple and yellow were 13% each subsequently, rest of them were very few.

In case of age group between 18 to 25 years showed red/pink color preferences, followed by blue color, however orange and yellow showed sizable in numbers.

In age group greater than 25, maximum respondents had preferred red/pink and yellow in 33% and 22% subsequently. However purple and black remained sizable.

3. For any unknown brand, the age group preferences are based on the color of paper advertisement.

H_0 = Age group does not have any influence by the type of color used in paper advertisement.

H_1 = Different age group are influence by the type of color used in paper advertisement.

Table No. 4 : Observations

Category	Brand Preference is based on Color of the paper advertisement	Brand Preference is not based on Color of the paper advertisement	Total
<18 Yrs.	10	13	23
18-25 Yrs.	52	18	70
>25 Yrs.	19	8	27
Total	81	39	120

Table No. 4 : Chi-Square Calculation.

Sr. No.	O	E	O-E	(O-E) ² /E
1	10	15.53	-5.525	1.97
2	13	7.48	5.525	4.08
3	52	47.25	4.75	0.48
4	18	22.75	-4.75	0.99
5	19	18.23	0.775	0.03
6	8	8.78	-0.775	0.07
Total				7.62

The calculated value of X^2 is 7.62 which is more than that of critical value (5.991 for 2DF @5% level), accordingly there is no evidence of accepting the null hypothesis, therefore the hypothesis H_0 is rejected, However the alternate hypothesis is accepted stating that there is some relation between age-group and color used in paper advertisements i.e. Different age-group are influence by the type of color used in paper advertisements. Further the type of relationships can be analyzed through the cross-tabulation observation table. On analysing cross tabulation, it indicated that, for the age group below 18 years the preferences of the paper advertisements are not based on color, however age group of 18-25 years and greater than 25 years, shows that the influence of the brands is based on the color advertisement. Overall it can be inferred that, for any unknown brand, the age group preferences are based on the color of paper advertisement.

VII.LIMITATION

1. The Study is restricted to centre of Pune city only.
2. The time of the study was limited to 10 days in the month of October 2017.
3. Packaging etc. were not considered, the study is restricted to color influencing respondents only.

VIII.CONCLUSIONS

Colors have become an important part of our life, where now life without colors are difficult to be accepted. The use of different combination of colors from pin to aeroplanes was initially made to make products more attractive. However, researchers reveal that it plays an important part in marketing, which resulted into use of different colors to make the product more consumer friendly. Consumer are not only like but opt for the product with their favourable color. However, this is not true in the case of different age groups. Different age group has different likings of the color is proved in the study. The group less than eighteen years of age are influenced by black colors, whereas above eighteen years and below twenty-five years of respondents are influenced by red and pink color. And above twenty-five years of age are influenced by yellow apart from red and pink. Furthermore, study was also based on whether these liking of the color has any preferences with the same color used in paper advertisement has any relations with the preference over it. This indicated that for the age group below eighteen, the same color used in unknow brand of advertisement does not influence them rather higher age group does get influenced when the color they liked used in the paper advertisements.

Furthermore, there are various factors, such as environment, social, cultural that influences the respondents. Further study can be carried out in these areas

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