

# The Influence of Colour on Consumer Brand Personality-A Generalized Study in Indian Context

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**Abstract**— From beverages to consumer electronics, marketers are using colour in innovative ways. As a marketing tool, colour attracts consumers and can shape their perceptions. Through colour, a brand can establish an effective visual identity, form strong relationships with a target market, and position itself among competitors in the marketplace, as the classic case of Coca-Cola versus Pepsi illustrates.

To distinguish itself from its main competitor, Pepsi moved away from red and embraced the colour blue, spending millions of dollars on marketing initiatives, such as painting a Concorde jet in its signature blue colour (Cooper 1996).

Colour sells products. It is a powerful marketing tool that significantly influences consumer purchases, so much so that it accounts for 85% of the reason why someone decides to purchase a product (Hemphill 275).

Marketers must understand the psychology of colour in order to use it effectively. Nearly all products sold today have colourful facades. Selecting the right colours to use has an enormous impact on product sales. While no single set of rules governs colour choices, research has established general guidelines based on the principle of associative learning, the relationship between colour and emotion.

The study was mainly conducted to understand how colour affects consumer perceptions and to provide a framework and empirical evidence that draws on research in aesthetics, colour psychology and associative learning to map hues onto brand personality dimensions. In order to demonstrate how colour influences consumer brand perceptions through referential meaning, we map findings from previous work on colour associations to items in the brand personality scale and develop hypotheses for the four dimensions. The study focussed upon nine independent colour variables (white, yellow, pink, red, orange, black, purple, brown, green) and their influence on the four brand personality dimensions i.e. dependent variables (sincerity, excitement, sophistication, ruggedness).

The study was carried out on 100 Indian respondents, with final sample size of 88, who were selected using non-probability convenient sampling.

A self-designed standardized questionnaire was the main instrument of data collection. The data were collected using the research instrument and were presented on the basis of demographics like age, gender, religion, education and occupation etc. It also covers interpretation of descriptive statistics followed by hypothesis testing for 88 cases measuring the influence of different colours or hues on different brand personality dimensions viz. sincerity, excitement, sophistication and ruggedness. The results of the data analysis provided strong support for the relationship between colour and brand personality.

**Index Terms**— Brand Personality & Dimensions, Brand Perception, Colour, Colour Psychology.

## I. INTRODUCTION

The marketers must understand the colour psychology in order to use the colours effectively because the use of colour facades has an enormous impact on the product sales. While no single set of rules governs colour choices, research has established general guidelines based on the principle of associative learning, the relationship between colour and emotion. It is necessary to define the three basic principles of colour- hue, saturation and value to understand associative learning.

*Hue* is the wavelength of a colour and determines its label, such as orange or green. *Saturation* is the intensity of a colour or how pigmented a colour is. *Value* is how bright a colour is. Together these three factors determine how people perceive colour and thus the associations the form with it.

**Brand Perception**- refers to the process by which a customer selects, organizes and interprets information / stimuli inputs to create a meaningful picture of the brand or the product. It is a three stage process that translates raw stimuli into meaningful information. Each individual interprets the meaning of stimulus in a manner consistent with his/her own unique biases, needs and expectations. Three stages of perception are exposure, attention and interpretation. It is the image of that particular brand in the mind of the customer.

**Brand Personality**-The brand personality metaphor compares the unique traits of brands with people [32]. Defining brand personality as “the set of human characteristics associated with a brand”. Brand personality can influence consumer preferences and usage [10], transform user experiences [2] and serve as a building block for relationship building, trust and loyalty [15].

**Colour**- is the visual perceptual property corresponding in humans to the categories called *red*, *blue*, *yellow*, etc. Colour derives from the spectrum of light (distribution of light power versus wavelength) interacting in the eye with the spectral sensitivities of the light receptors.

Like a carefully chosen brand name, colour carries intrinsic meaning that becomes central to the brand's identity, contributes to brand recognition [3] and communicates the desired image [12]. According to the Munsell Colour System, each colour has three basic attributes: hue, value (brightness) and chroma (saturation).

Hue refers to simple colour tones such as red, blue and yellow. Red, yellow, green, blue and purple are identified as the five principal hues in the Munsell Colour System.

Value (brightness) refers to the degree of darkness or lightness of the colour, extending from white to black.

Chroma (saturation) of colour describes the degree of purity of the colour; it is the amount of pigment in a colour and it

can be explained as the mixing of white with a colour, which reduces the saturation of colour.

**Colour Psychology-** is the study of hues as a determinant of human behaviour. Colour influences perceptions that are not obvious, such as the taste of food. Colour psychology is also widely used in marketing and branding. Many marketers see colour as an important part of marketing because colour can be used to influence consumers' emotions and perceptions of goods and services. Companies also use colour when deciding on brand logos.

The general model of colour psychology relies on six basic principles:

1. Colour can carry specific meaning.
2. Colour meaning is either based in learned meaning or biologically innate meaning.
3. The perception of a colour causes evaluation automatically by the person perceiving.
4. The evaluation process forces colour-motivated behaviour.
5. Colour usually exerts its influence automatically.
6. Colour meaning and effect has to do with context as well.

**Aesthetics-** is a branch of philosophy dealing with the nature of art, beauty and taste with the creation and appreciation of beauty. It is more scientifically defined as the study of sensory or sensory-emotional values, sometimes called judgments of sentiment and taste.

**Aaker's Brand Personality Dimensions Model**

Brand personality refers to the set of human characteristics associated with a brand. Brand personality provides an emotional identity for a brand and encourages consumers to respond with feelings and emotions towards a brand. A brand personality is something to which the consumer can relate and an effective brand will increase its brand equity by having a consistent set of traits. This is the added-value that a brand gains, aside from its functional benefits. Basically brand personality reflects how people feel about a brand, rather than what they think the brand is or does. Example : Limca representing freshness, Nike as the athlete in all of us, Maggi-2 min noodles.

**Measuring Brand Personality**

Aaker's paper "Dimensions of Brand Personality" [1] contributes to measure the interesting notion of brand personality. The objective of her study was to identify brand dimensions as perceived in the consumer's mind.

Consumer's perceive the brand on dimensions that typically capture's a person's personality and extend that to the domain of brands.

The dimensions of brand personality are defined by extending the dimensions of human personality to the domain of brands.

The brand dimensions of Aaker is a framework to describe the profile and traits of a brand in five core dimensions, each divided into set of facets. It is an easy to understand model to describe the profile of a brand using an analogy with a human being.

**The five core dimensions and their facets are:**

1. Sincerity (down-to-earth, honest, wholesome, cheerful)
2. Excitement (daring, spirited, imaginative, up-to-date)
3. Competence (reliable, intelligent, successful)
4. Sophistication (upper class, charming)
5. Ruggedness (outdoorsy, tough)

Each facet is in turn measured by a set of traits. Examples of traits for the different types of brand personalities:

**Sincerity:** genuine, kind, family-oriented, thoughtful.

**Excitement:** carefree, spirited, youthful.

**Competence:** successful, accomplished, influential.

**Sophistication:** elegant, prestigious, pretentious.

**Ruggedness:** rough, tough, masculine, dull, outdoorsy.



Fig. 1. Aaker Brand Personality Dimensions Model.

## I. LITERATURE REVIEW

Different theories and research had been carried out by the researchers in the field of colour psychology, brand personality, associative learning theory, anthropomorphism, animism, etc. The studies on the large signifies the relation of colour with brands, their personalities, their influence on consumer perceptions and buying behaviour, etc.

### Colour

Hynes stated that colour is an integral element of corporate and marketing communications. It induces moods and emotions, influences consumer's perceptions and behaviour and helps companies position or differentiate from the competition[22]. Abril narrated that like a carefully chosen brand name, colour carries intrinsic meaning that becomes central to the brand's identity, contributes to brand recognition[3]. Bottomley and doyle stated that colour communicates the desired brand image[12].

Kahney emphasized that brand loyalists become attached to a brand's visual identity and may complain in response to changes in a brand's colour scheme[23]. Gorn stated that the existing discussions on the use of colour generally are based on anecdotal evidence and offer scant insight into the processes by which colours affect perceptions. In turn, to make colour choices, brand managers often rely on trial and error or the recommendations of consultants, whose judgments rely on their own past experience rather than scientific data. In interviews with 12 creative directors, found that 11 confessed they were not familiar with colour theory and simply trusted their preferences or gut feelings to make colour decisions[19].

Page and Herr proposed that aesthetics influence both affect and perceptions of quality and colour is an important component of aesthetic design[30]. Grossman & Wisenblit claimed that the brand managers use colour to attract new customers and to facilitate identification with the brand. Also, colour is a vital part of products, services, packages, logos, displays and collateral and it is a potent cue for consumer perceptions[21]. Silayoi & speece point out the use of colour by brand managers to attract new customers [31].

Zelanski & Fisher stated in order to interpret information in everyday life colour is used by consumers [37].

Colour is a function of light and varying wavelengths; it has historically been associated with life. Wavelengths consisting of radiant energy determine hue; short wavelengths create cool colours (i.e., blues, purples, and greens) and longer wavelengths create warmer colours (i.e., reds, oranges, and yellows). All of these hues are a result of very small differences in wavelengths. Wavelengths are measured in nano-meters and those wavelengths that can be seen by the human eye belong to the visible spectrum.

### Brand Personality

Levy examined the symbolic nature of brands to the concept of brand personality. Stern recommended that the brand

personality metaphor compares the unique traits of brands with people [24].

Aaker defines the construct as "the set of human characteristics associated with a brand" and documents a stable set of personality dimensions that are thought to underlie the construct. Also, gave the brand personality dimension scale. Aaker defined brand personality as "the set of human characteristics associated with a brand," also offers a brand personality scale based on the "Big Five" human personality traits. This scale uses 42 items to describe sincerity, excitement, competence, sophistication and ruggedness, which themselves comprise 15 facets[1].

Azoulay & Kapferer point out that the scale is not immune to criticism, especially regarding its conceptual validity, yet it remains the standard measure in brand personality research[5]. Belk revealed how brand personality encourages self-expression and association[9]. Batra et al tested for the benefits and consequences of brand personality. Also, suggested that the brand personality is derived from many factors, including brand name, product attributes, advertising, logo and package design[7].

### Associative Learning Theory

Grossman emphasized that associative learning theory can be used to help explain the development of colour preferences. Consumers learn to prefer a colour for a product based on their previous interactions with that product. A good association can lead to a preference for that colour. Also, associative learning occurs when an individual makes associations among the occurrences in their environment. Associative learning is a broad theory that encompasses all systematic pairing of stimuli to construct common connections between them [21].

Bottomley & Doyle stated that both colours and brands have learned associations such as the iconic colours of red and yellow that are associated with McDonalds[12]. Batra & Lehmann narrated that consumers perceive brand personality from a variety of associations and there is often some conditioning involved which typically comes from repeated exposure to the brand's elements[7].

### Anthropomorphism

Freling & Forbes suggested that the theory of anthropomorphism helps to explain how consumers can view brands as having a personality and how this can facilitate the development of a relationship [17]. Aaker & Fournier suggested that anthropomorphizing is when humans apply human attributes to inanimate objects[1][15].

Aggarwal & Mc Gill stated that it is often with the encouragement of marketers that consumers tend to give human traits to brands. This has important implications to marketers because as humans apply personality traits to brands they begin to build a relationship with the brand [4].

### Animism

Aaker stated that when a consumer thinks about a brand having human attributes it is known as animism. The theory of animism states that humans feel a "need to anthropomorphize inanimate objects in order to facilitate interactions with the nonmaterial world"[1]

Fournier states that animism is comprised of two concepts; the first is the idea that the brand takes on the spirit of someone else and the second is the brand itself takes on its own human characteristics [15].

The first concept can occur when a spokesperson is used to represent a brand and the consumer applies the personality attributes of that spokesperson to the brand being represented. The second thought is that the brand object itself will take on human attributes (e.g. the Pillsbury Doughboy and Starkist's Charlie the Tuna) and will serve as an example of the brand's personality.

## II. OBJECTIVE, SCOPE & HYPOTHESIS

**Objective-** To map hues onto brand personality dimensions based on aesthetics and colour psychology.

### Scope-

1. The investigation addresses the importance of colour for brand management by focusing on the relationship between colour and brand perceptual measures in a series of studies. The proposed hypotheses and establish empirical evidence, drawing on theories of aesthetics, colour psychology and associative learning, to map colours onto brand personality dimensions.
2. The research examines how all the three colour components play a role in the formation of consumer brand perceptions. By examining such relationships in the context of logo design, we focus on a brand's logo colour as a key visual cue related to other marketing elements such as packaging, product design and advertising.
3. The research adopts the following organization: First, we review literature on brand personality and colour. Then, based on theories of aesthetics, colour psychology and associative learning, we link these literature streams and propose hypotheses. Second, we test the hypotheses in a series of studies. Third, we conclude with some managerial and theoretical implications and suggestions for further research.

### Hypothesis-

White, being the total reflection of all colours, can be linked to sincerity as it is associated with purity, cleanness, simplicity, hygiene, clarity and peace [16]; [26]; [36] and is also associated with happiness [13].

Yellow taps the cheerful facet of sincerity as it generally elicits feelings of optimism, extraversion and friendliness [16]; [28]; [36] and happiness and cheerfulness [13]; [27]; [35].

Pink can also be linked to the dimensions of sincerity as it is considered nurturing, warm and soft [13]; [16]; [26].

Therefore, we hypothesize:

#### Hypothesis I :

H<sub>0</sub> : There is no impact of white, yellow and pink hues on the perceived sincerity of a brand.

H<sub>1</sub> : There is impact of white, yellow and pink hues on the perceived sincerity of a brand.

The colour red can be linked to excitement as it is considered an arousing, exciting and stimulating colour [11]-[13]-[14]-[19]-[27]; [33]-[35].

It is generally associated with the characteristics of activity, strength and stimulation [16] and is considered up-to-date [11].

Research has consistently shown that longer wavelength hues (e.g., red, orange, yellow) induce states of arousal and excitement [33].

Orange is arousing and exciting, although it is less so than red [35] and it is considered lively, energetic, extroverted and sociable [26].

Having a medium-long wavelength, yellow also holds qualities of arousal and excitement, but less so than red [27].

Thus, we hypothesize:

#### Hypothesis II :

H<sub>0</sub> : The presence of red, orange and yellow hues has no impact on the perceived excitement of a brand.

H<sub>1</sub> : The presence of red, orange and yellow hues has impact on the perceived excitement of a brand.

Black stands for sophistication and glamour [16]; [26]; [36]. It is a very powerful colour that signals power, stateliness and dignity [28]; [35].

In the fashion world, black expresses status, elegance, richness and dignity (e.g. black limousines, black tie events, little black dresses, tuxedos, suits).

Likewise, purple is a colour that also connotes luxury, authenticity and quality [16]; [26]; [36].

Purple is also seen as a dignified and stately colour [27]; [28]; [35], which is likely due to its historical past as a colour reserved for royalty and to connote social roles.

Pink can also be linked to the sophistication dimension as it is considered soft and feminine [13]; [16]; [26], which are aspects of the charming facet.

Like pink, purple is considered a feminine colour [26], thus touching this facet as well.

Therefore, we hypothesize:

#### Hypothesis III :

H<sub>0</sub> : The presence of black, purple and pink hues has no impact on the perceived sophistication of a brand.

H<sub>1</sub> : The presence of black, purple and pink hues has impact on the perceived sophistication of a brand.

Brown can be linked to ruggedness through associations of seriousness, nature, earthiness [13], reliability, support [36]; [26]; [36] and protection [27]; [35].

Green's primary association with nature creates feelings of security and a connection with the outdoors [13].

Thus, we hypothesize:

**Hypothesis IV :**

H<sub>0</sub> : The presence of brown and green hues has no impact on the perceived ruggedness of a brand.

H<sub>1</sub> : The presence of brown and green hues has impact on the perceived ruggedness of a brand.

**III. METHODOLOGY**

**A) Methodology used for Data Collection:**

Primary data will be collected by questionnaire method.

Sample size is 100 and sampling technique used is non-probability convenience sampling.

Convenience sampling is a non-probability sampling technique and it is used in our study as subjects are selected because of their convenient accessibility and proximity.

**B) Methodology used for Data Analysis:**

The technique to be used for data analysis is Regression.

In statistical modelling, regression analysis is a statistical process for estimating the relationships among variables. It includes many techniques for modelling and analyzing several variables, when the focus is on the relationship between a dependent variable and one or more independent variables (or 'predictors').

The regression technique here will be applied to demonstrate a relationship between colour (independent variable) and brand personality dimensions (dependent variables).

**Dependent Variable:** Sincerity, excitement, sophistication, ruggedness.

**Independent Variable:** Different colours (white, yellow, pink, red, orange, black, purple, brown, green).

The software tool to be used in the project is SPSS.

"SPSS is a comprehensive system for analyzing data. SPSS can take data from almost any type of file and use them to generate tabulated reports, charts and plots of distributions and trends, descriptive statistics and complex statistical analysis."

**C) Responses**

There are five parts of the instruments in this study, included Part A, B, C, D, E. Part A consists of demographic profile of the respondents, while Part B, C, D, E consists of the four different brand personality dimensions constructs viz. Sincerity, excitement, sophistication and ruggedness.

**IV. DATA PRESENTATION**

**A) Demographic Information (Part A)**

Q1. Are you male or female?

#	Answer	Response	%
1	MALE	56	64%
2	FEMALE	32	36%
Total		88	100%

Table 1 : Percentage gender distribution.

Q2. What is your age?

#	Answer	Response	%
1	Below 18	1	1%
2	18-24	34	39%
3	25-34	39	44%
4	35-54	10	11%
5	Above 55	4	5%
Total		88	100%

Table 2 : Percentage age distribution.

Q3. What is the highest level of education you have completed?

#	Answer	Response	%
1	10 <sup>th</sup>	0	0%
2	12 <sup>th</sup>	1	1%
3	Bachelor's degree	18	20%
4	Post Graduate Degree	61	69%
5	Doctorate	8	9%
Total		88	100%

Table 3 : Percentage education distribution.

Q4. Which of the following best describes your current occupation?

#	Answer	Response	%
1	Student	17	19%
2	Job	47	53%
3	Business	23	26%
4	Other (Please specify)	1	1%
Total		88	100%

Table 4 : Percentage occupation distribution.

Q5. What is your religious affiliation?				
#	Answer		Response	%
1	Hindu		58	66%
2	Christian		9	10%
3	Muslim		6	7%
4	Jainism		1	1%
5	Sikh		14	16%
6	Buddhism		0	0%
Total			88	100%

Table 5 : Percentage religious affiliation distribution.

B) Main Constructs Part B, C, D, E.

We are here to find the impact of Hue (colour) on 4 brand personality dimensions:-

Sincerity- down to earth, honest, sincere, real, original, cheerful.

Excitement- daring, exciting, young, cool, unique, independent.

Sophistication- upper class, glamorous, good looking, feminine.

Ruggedness- masculine, tough, outdoorsy, western.

Please give your feedback against each statement on 5 point likert scale :

PART B-Sincerity Dimension								
Sincerity- down to earth, honest, sincere, real, original, cheerful.								
#	Question	Strongly Agree (5)	Agree (4)	Neutral (3)	Dis-Agree (2)	Strongly Dis-Agree (1)	Total Responses	Mean
1	White hue has impact on perceived sincerity of brand.	27	52	5	2	2	88	1.86
2	Yellow hue has impact on perceived sincerity of brand.	21	49	13	5	0	88	2.02
3	Pink hue has impact on perceived sincerity of brand.	21	29	20	17	1	88	2.41
4	Red hue has impact on perceived sincerity of brand.	3	13	22	42	7	87	3.43
5	Orange hue has impact on perceived sincerity of brand.	10	54	13	8	3	88	2.32
6	Black hue has impact on perceived sincerity of brand.	8	7	2	47	24	88	3.32
7	Purple hue has impact on perceived sincerity of brand.	7	18	29	24	9	87	3.11
8	Brown hue has impact on perceived sincerity of brand.	1	5	15	28	37	86	4.10
9	Green hue has impact on perceived sincerity of brand.	33	34	12	9	0	88	1.97

Table 6 : Showing participants responses on sincerity brand dimension with respect to different colours.

Q7. PART C-Excitement Dimension								
Excitement-daring, exciting, young, cool, unique, independent, up-to-da								
#	Question	Strongly Agree (3)	Agree (4)	Neutral (3)	Dis- Agree (2)	Strongly Dis- Agree (1)	Total Responses	Mean
1	White hue has impact on perceived excitement of brand.	8	37	14	27	1	87	2.72
2	Yellow hue has impact on perceived excitement of brand.	7	34	25	21	1	88	2.72
3	Pink hue has impact on perceived excitement of brand.	49	31	5	2	1	88	1.58
4	Red hue has impact on perceived excitement of brand.	50	27	3	8	0	88	1.65
5	Orange hue has impact on perceived excitement of brand.	7	40	22	19	0	88	2.60
6	Black hue has impact on perceived excitement of brand.	11	14	12	42	9	88	3.27
7	Purple hue has impact on perceived excitement of brand.	11	23	26	26	2	88	2.83
8	Brown hue has impact on perceived excitement of brand.	0	11	13	30	32	86	3.97
9	Green hue has impact on perceived excitement of brand.	17	42	19	8	2	88	2.27

Table 7 : Showing participants responses on excitement brand dimension with respect to different colours.

Q8. PART D-Sophistication Dimension								
Sophistication- upper class, glamorous, good looking, feminine, smooth.								
#	Question	Strongly Agree (3)	Agree (4)	Neutral (3)	Dis- Agree (2)	Strongly Dis- Agree (1)	Total Responses	Mean
1	White hue has impact on perceived sophistication of brand.	15	21	16	26	8	86	2.90
2	Yellow hue has impact on perceived sophistication of brand.	2	10	16	46	12	86	3.65
3	Pink hue has impact on perceived sophistication of brand.	38	38	5	2	4	87	1.80
4	Red hue has impact on perceived sophistication of brand.	8	6	20	43	10	87	3.47
5	Orange hue has impact on perceived sophistication of brand.	1	11	19	47	8	86	3.58
6	Black hue has impact on perceived sophistication of brand.	21	50	10	4	2	87	2.03
7	Purple hue has impact on perceived sophistication of brand.	53	26	6	2	0	87	1.51
8	Brown hue has impact on perceived sophistication of brand.	1	5	7	31	42	86	4.26
9	Green hue has impact on perceived sophistication of brand.	2	17	29	30	9	87	3.31

Table 8 : Showing participants responses on sophistication brand dimension with respect to different colours.

**9. PART E-Ruggedness Dimension**  
**Ruggedness- masculine, tough, outdoorsy, western, rough.**

#	Question	Strongly Agree (5)	Agree (4)	Neutral (3)	Dis- Agree (2)	Strongly Dis- Agree (1)	Total Responses	Mean
1	White hue has impact on perceived ruggedness of brand.	2	3	7	37	35	84	4.19
2	Yellow hue has impact on perceived ruggedness of brand.	0	3	11	49	29	86	4.07
3	Pink hue has impact on perceived ruggedness of brand.	1	2	4	37	41	85	4.35
4	Red hue has impact on perceived ruggedness of brand.	2	31	39	11	4	87	2.82
5	Orange hue has impact on perceived ruggedness of brand.	2	7	16	47	19	85	3.73
6	Black hue has impact on perceived ruggedness of brand.	9	32	39	6	0	86	2.49
7	Purple hue has impact on perceived ruggedness of brand.	1	6	8	34	37	86	4.16
8	Brown hue has impact on perceived ruggedness of brand.	55	22	4	3	3	87	1.59
9	Green hue has impact on perceived ruggedness of brand.	13	46	13	12	3	87	2.38

Table 9 : Showing participants responses on ruggedness brand dimension with respect to different colours.

V.RESULTS & DATA ANALYSIS

A) The hypothesis was tested in SPSS and the result obtained is furnished below :

**Hypothesis I :**

H<sub>0</sub> : There is no impact of white, yellow and pink hues on the perceived sincerity of a brand.

H<sub>1</sub> : There is impact of white, yellow and pink hues on the perceived sincerity of a brand.

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.996 <sup>a</sup>	.992	.991	.33081

a. Predictors: (Constant), GREEN, BLACK, PINK, WHITE, RED, YELLOW, ORANGE, PURPLE, BROWN

b. Dependent Variable: SINCERITY

**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1092.453	9	121.384	1109.183	.000 <sup>b</sup>
1 Residual	8.536	78	.109		
Total	1100.989	87			

a. Dependent Variable: SINCERITY

b. Predictors: (Constant), GREEN, BLACK, PINK, WHITE, RED, YELLOW, ORANGE, PURPLE, BROWN

**Residuals Statistics**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	20.1005	37.9077	29.0114	3.54358	88
Residual	-.39171	2.59773	.00000	.31323	88
Std. Predicted Value	-2.515	2.511	.000	1.000	88
Std. Residual	-1.184	7.853	.000	.947	88

a. Dependent Variable: SINCERITY

Coefficients <sup>a</sup>							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.786	.354	2.219	.029	.081	1.491
	WHITE	.928	.046	.210	20.191	.000	.837
	YELLOW	.983	.052	.218	19.046	.000	.880
	PINK	.978	.034	.300	28.459	.000	.910
	RED	.954	.042	.256	22.988	.000	.872
	ORANGE	1.061	.044	.273	23.887	.000	.973
	BLACK	.984	.039	.329	25.273	.000	.907
	PURPLE	1.018	.036	.314	27.888	.000	.945
	BROWN	.989	.045	.267	21.868	.000	.899
	GREEN	.901	.041	.244	22.202	.000	.820

a. Dependent Variable: SINCERITY

Table 10 : Regression (SPSS) statistic tables for sincerity brand dimension.

The Table 10. clearly shows that all the colours have impact on sincerity of the brand as p values of all the colours are less than 0.05 ( $p < 0.05$ ).

**Sincerity:** The sincerity regressions are significant (adjusted  $R^2 = .991$ ,  $p < .000$ ).

The positive relationship between sincerity and pink ( $\beta = .300$ ,  $p = .000$ ) support H1. While the relationship between sincerity white ( $\beta = .210$ ,  $p = .000$ ) and yellow ( $\beta = .218$ ,  $p = .000$ ) offers partial support for it.

In turn, H1 receives only partial support.

B) The hypothesis was tested in SPSS and the result obtained is furnished below:

**Hypothesis II :**

$H_0$  : The presence of red, orange, and yellow hues has no impact on the perceived excitement of a brand.

$H_1$  : The presence of red, orange, and yellow hues has impact on the perceived excitement of a brand.

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.804 <sup>a</sup>	.646	.605	2.23992

a. Predictors: (Constant), GREEN, YELLOW, RED, BLACK, WHITE, ORANGE, PURPLE, PINK, BROWN

b. Dependent Variable: EXCITEMENT

ANOVA <sup>a</sup>					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	712.973	9	79.219	15.789	.000 <sup>b</sup>
Residual	391.345	78	5.017		
Total	1104.318	87			

a. Dependent Variable: EXCITEMENT

b. Predictors: (Constant), GREEN, YELLOW, RED, BLACK, WHITE, ORANGE, PURPLE, PINK, BROWN

**Residuals Statistics<sup>a</sup>**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	24.7765	38.6752	30.2045	2.86271	88
Residual	-14.90773	8.78448	.00000	2.12090	88
Std. Predicted Value	-1.896	2.959	.000	1.000	88
Std. Residual	-6.655	3.922	.000	.947	88

a. Dependent Variable: EXCITEMENT

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	3.165	2.451		1.291	.200	-1.715	8.045
	WHITE	.766	.246	.221	3.113	.003	.276	1.256
	YELLOW	1.107	.272	.298	4.077	.000	.566	1.648
	PINK	1.251	.361	.280	3.465	.001	.532	1.970
	RED	.893	.279	.231	3.207	.002	.339	1.448
	ORANGE	.730	.272	.188	2.685	.009	.189	1.272
	BLACK	.680	.225	.233	3.015	.003	.231	1.128
	PURPLE	.639	.248	.191	2.579	.012	.146	1.133
	BROWN	1.105	.292	.315	3.784	.000	.524	1.686
	GREEN	.764	.269	.205	2.840	.006	.228	1.300

a. Dependent Variable: EXCITEMENT

Table 11 : Regression (SPSS) statistic tables for excitement brand dimension.

The Table 11. clearly shows that all the colours have impact on excitement of the brand as p values of all the colours are less than 0.05 ( $p < 0.05$ ).

**Excitement:** The regressions explaining excitement are significant (adjusted  $R^2 = .605$ ,  $p < .006$ ). The positive relationship between excitement and yellow ( $\beta = .298$ ,  $p = .000$ ) provides support for H2, but we find only partial support for a

relationship with red ( $\beta=.231, p=.002$ ) and orange ( $\beta=.188, p=.009$ ).

In turn, H2 receives only partial support.

C) The hypothesis was tested in SPSS and the result obtained is furnished below:

**Hypothesis III :**

H<sub>0</sub> : The presence of black, purple, and pink hues has no impact on the perceived sophistication of a brand.

H<sub>1</sub> : The presence of black, purple, and pink hues has impact on the perceived sophistication of a brand.

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.815 <sup>a</sup>	.664	.625	2.80628

a. Predictors: (Constant), GREEN, PINK, BLACK, PURPLE, WHITE, RED, YELLOW, ORANGE, BROWN

b. Dependent Variable: SOPHISTICATION.

**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1215.187	9	135.021	17.145	.000 <sup>b</sup>
1 Residual	614.267	78	7.875		
1 Total	1829.455	87			

a. Dependent Variable: SOPHISTICATION

b. Predictors: (Constant), GREEN, PINK, BLACK, PURPLE, WHITE, RED, YELLOW, ORANGE, BROWN

**Residuals Statistics<sup>a</sup>**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	19.4990	39.1217	27.772	3.7373	88
Residual	-1.98160	23.1263	.00000	2.6571	88
Std. Predicted Value	-2.214	3.037	.000	1.000	88
Std. Residual	-.706	8.241	.000	.947	88

a. Dependent Variable: SOPHISTICATION

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	3.340	3.218		1.038	.303	-3.067	9.747
	WHITE	.709	.276	.195	2.571	.012	.160	1.258
	YELLOW	.942	.399	.194	2.358	.021	.147	1.737
	PINK	1.417	.352	.308	4.024	.000	.716	2.118
	RED	.751	.368	.177	2.098	.039	.039	1.464
	ORANGE	.660	.481	.125	1.371	.174	-.299	1.619
	BLACK	1.162	.365	.219	3.182	.002	.435	1.889
	PURPLE	.459	.470	.073	.977	.332	-.476	1.394
	BROWN	1.214	.490	.242	2.478	.015	.239	2.189
	GREEN	.688	.368	.149	1.923	.058	-.024	1.401

a. Dependent Variable: SOPHISTICATION

Table 12 : Regression (SPSS) statistic tables for sophistication brand dimension.

The Table 12. clearly shows that all the colours have impact on sophistication of the brand as p values of all the colours are less than 0.05 ( $p<0.05$ ) except for orange, purple and green as  $p>0.05$ .

**Sophistication:** The sophistication regressions are significant (adjusted R<sup>2</sup>=.625,  $p<.000$ ). We find full support for H3 in the positive relationships between sophistication and pink ( $\beta=.308, p=.000$ ), but we find only partial support for a relationship with black ( $\beta=.219, p=.002$ ) and nothing for purple.

In turn, H3 receives only partial support.

D) The hypothesis was tested in SPSS and the result obtained is furnished below:

**Hypothesis IV :**

H<sub>0</sub> : The presence of brown and green hues has no impact on the perceived ruggedness of a brand.

H<sub>1</sub> : The presence of brown and green hues has impact on the perceived ruggedness of a brand.

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	1.000 <sup>a</sup>	.999	.999	.10379

a. Predictors: (Constant), GREEN, RED, BROWN, YELLOW, BLACK, PURPLE, ORANGE, WHITE, PINK

b. Dependent Variable: RUGGEDNESS

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-.139	.112		-1.242	.218	-.361	.084
	WHITE	1.034	.017	.260	62.355	.000	1.001	1.067
	YELLOW	.940	.022	.187	43.609	.000	.897	.983
	PINK	.991	.021	.214	46.912	.000	.949	1.034
	RED	1.025	.015	.244	68.483	.000	.996	1.055
	ORANGE	.995	.017	.239	58.769	.000	.961	1.029
	BLACK	1.003	.017	.221	58.979	.000	.969	1.037
	PURPLE	1.020	.016	.260	64.184	.000	.988	1.051
	BROWN	1.006	.014	.266	72.192	.000	.978	1.034
	GREEN	1.015	.012	.276	82.515	.000	.990	1.039

a. Dependent Variable: RUGGEDNESS

Table 13 : Regression (SPSS) statistic tables for ruggedness brand dimension.

**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1194.148	9	132.683	12317.002	.000 <sup>b</sup>
Residual	.840	78	.011		
Total	1194.989	87			

a. Dependent Variable: RUGGEDNESS

b. Predictors: (Constant), GREEN, RED, BROWN, YELLOW, BLACK, PURPLE, ORANGE, WHITE, PINK

The Table 13. clearly shows that all the colours have impact on ruggedness of the brand as p values of all the colours are less than 0.05 (p<0.05).

**Ruggedness:** The regressions for ruggedness are significant (adjusted R<sup>2</sup>=.999, F15, p<.000).

In support of H<sub>4</sub>, we find a positive relationship between ruggedness and brown (β=.266, p=.000) and green (β=.276, p=.000).

**Hence, H<sub>4</sub> receives full support.**

**VI. Summary and Conclusions**

**A) Findings of the study**

The investigation addresses the importance of colour for brand management by focusing on the relationship between colour and brand perception. The hypotheses were proposed and establish empirical evidence was established, based on theories of aesthetics, colour psychology and associative learning, to map nine colours onto brand personality dimensions.

The major findings of the study are as follows :

The regression results demonstrate a relationship between colour and brand personality. The individual regressions were used for the dimensions to test the hypothesized relationships.

The results of the study provided strong support for the relationship between colour and brand personality.

The results and analysis clearly shows that all the colours have impact on sincerity of the brand as p values of all the colours are less than 0.05 (p<0.05).

**Residuals Statistics<sup>a</sup>**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	16.9540	40.0319	24.2614	3.70484	88
Residual	-.84024	.09395	.00000	.09828	88
Std. Predicted Value	-1.972	4.257	.000	1.000	88
Std. Residual	-8.096	.905	.000	.947	88

a. Dependent Variable: RUGGEDNESS

**Sincerity:** The sincerity regressions were significant (adjusted R<sup>2</sup>=.991, p<.000).

The positive relationship between sincerity and pink ( $\beta=.300, p=.000$ ) support Hypothesis 1. While the relationship between sincerity white ( $\beta=.210, p=.000$ ) and yellow ( $\beta=.218, p=.000$ ) offers partial support for it.

3. The results and analysis clearly shows that all the colours have impact on excitement of the brand as p values of all the colours are less than 0.05 (p<0.05).

**Excitement:** The regressions explaining excitement were significant (adjusted R<sup>2</sup>=.605, p<.006).

The positive relationship between excitement and yellow ( $\beta=.298, p=.000$ ) provides support for Hypothesis 2, but we find only partial support for a relationship with red ( $\beta=.231, p=.002$ ) and orange ( $\beta=.188, p=.009$ ).

4. The results and analysis clearly shows that all the colours have impact on sophistication of the brand as p values of all the colours are less than 0.05 (p<0.05) except for orange, purple and green as p>0.05.

**Sophistication:** The sophistication regressions were significant (adjusted R<sup>2</sup>=.625, p<.000).

We find full support for Hypothesis 3 in the positive relationships between sophistication and pink ( $\beta=.308, p=.000$ ), but we find only partial support for a relationship with black ( $\beta=.219, p=.002$ ) and nothing for purple.

5. The results and analysis clearly shows that all the colours have impact on ruggedness of the brand as p values of all the colours are less than 0.05 (p<0.05).

**Ruggedness:** The regressions for ruggedness were significant (adjusted R<sup>2</sup>=.999, p<.000).

In support of Hypothesis 4, we find a positive relationship between ruggedness and brown ( $\beta=.266, p=.000$ ) and green ( $\beta=.276, p=.000$ ).

6. In general, we find support for our hypotheses; at the dimension level, we provide partial support for Hypothesis 1, 2, 3 and full support for Hypothesis 4.

#### B) Limitations of the study

Due to the shortage or less availability of time, it may be possible that all related and concerned aspects may not be covered in the project. The influence of colour on consumer brand perception depends upon brand's value and many other factors also and all such factors could not be considered.

The brand personality is a rich construct with many factors impacting these perceptions, including design (e.g. shape, font, size) and non-design factors (e.g. price). This research solely focuses on one design factor; colour, in order to establish the role that colour plays in affecting consumer perceptions. The nature of study was complex and involved many complexities in understanding.

The consumer perceptions, human characteristics associated with brand on the basis of colours varies from product to product or across industries and in depth study covering all these aspects could not be conducted due to paucity of time.

#### C) Suggestions & Scope for further Study

The preliminary results of the study add to the limited marketing literature on colour effects. Future researchers could extend framework to examine other design aspects, such as the shape of a logo, along with other sensory elements, such as scent.

Further research may also examine the non-conscious effects of colour on non-design variables, such as quality and price evaluations.

The samples were dominated by Indians while the perceptions and meanings of colours vary across cultures and hence study can be extended to other cultures.

Research is also needed to understand the role of brand personality across product categories and same is needed to study the impact of other colour variables such as product packaging, brand logo colour, brand advertising background, etc on the consumer brand perceptions and personalities.

Research is also needed to understand the role of brand personality across product categories. Colours have multiple associations, thus context may play a large role in which associations are activated in memory.

More research should consider colour effects in the context of specific product classes. Matching context with appropriate colour and brand personality may have an impact on purchase intent.

The choice of colour relative to competitors may affect the brand's ability to differentiate from other brands or be identified as belonging to a particular product class.

#### REFERENCES

- [1] Aaker, J. L. (1997). Dimensions of brand personality. *Journal of Marketing Research*, 34, 347-356.
- [2] Aaker, D. A., & Stayman, D. (1992). Implementing the concept of transformational advertising. *Psychology & Marketing*, 9(3), 237-253.
- [3] Abril, P. S., Olazábal, A. M., & Cava, A. (2009). Marketing and the law. *Journal of the Academy of Marketing Science*, 37(3), 375-377.
- [4] Aggarwal, P., & McGill, A. L. (2007). Is that car smiling at me? Schema congruity as a basis for evaluating anthropomorphized products. *Journal of Consumer Research*, 34, 468-479.
- [5] Azoulay, A., & Kapferer, J. (2003). Do brand personality scales really measure brand personality? *Journal of Brand Management*, 11 (2), 143-155.
- [6] Baker, J., & Cameron, M. (1996). The effects of the service environment on affect and consumer perception of waiting time: an analysis of an industrial technology diffusion. *Journal of the Academy of Marketing Science*, 24(4), 338-349.
- [7] Batra, R., Lehmann, D. L., & Singh, D. (1993). The brand personality component of goodwill: Some antecedents and consequences. In D. A. Aaker & A. Biel (Eds.), *Brand equity and advertising* (pp. 83-96). Hillsdale: Erlbaum.
- [8] Batra, R., & Homer, P. M. (2004). The situational impact of brand image beliefs. *Journal of Consumer Psychology*, 14(3), 318-330.
- [9] Belk, R. W. (1988). Possessions and the extended self. *Journal of Consumer Research*, 15(2), 139-168.
- [10] Biel, A. (1993). Converting image into equity. In D. A. Aaker & A. Biel (Eds.), *Brand equity and advertising* (pp. 67-82). Hillsdale: Erlbaum.

- [11] Bellizzi, J. A., Crowley, A. E., & Hasty, R. W. (1983). The effects of color in store design. *Journal of Retailing*, 59(1), 21–45.
- [12] Bottomley, P. A., & Doyle, J. R. (2006). The interactive effects of colours and products on perceptions of brand logo appropriateness. *Marketing Theory*, 6(1), 63–83.
- [13] Clarke, T., & Costall, A. (2007). The emotional connotations of color: a qualitative investigation. *Color Research and Application*, 33 (5), 406–410.
- [14] Crowley, A. E. (1993). The two-dimensional impact of color on shopping. *Marketing Letters*, 4(1), 59–69.
- [15] Fournier, S. (1998). Consumers and their brands: developing relationship theory in consumer research. *Journal of Consumer Research*, 24(4), 343–353.
- [16] Fraser, T., & Banks, A. (2004). *Designer's color manual: The complete guide to color theory and application*. San Francisco: Chronicle Books.
- [17] Freling, T. H., & Forbes, L. P. (2005). An empirical analysis of the brand personality effect. *Journal of Product and Brand Management*, 14 (7), 404–413.
- [18] Freling, T. H., Crosno, J. L., & Henard, D. H. (2010). Brand personality appeal: conceptualization and empirical validation. *Journal of the Academy of Marketing Science* (Published Online January 1, 2010).
- [19] Gorn, G. J., Chattopadhyay, A., Yi, T., & Dahl, D. W. (1997). Effects of colour as an executional cue in advertising: they're in the shade. *Management Science*, 43(10), 1387–1400.
- [20] Grohmann, B. (2009). Gender dimensions of brand personality. *Journal of Marketing Research*, 46(1), 105–119.
- [21] Grossman, R., & Wisenblit, J. Z. (1999). What we know about consumers' color choices. *Journal of Marketing Practice*, 5(3), 78-88.
- [22] Hynes, N. (2009). Colour and meaning in corporate logos: An empirical study. *Brand Management*, 16(8), 545-555.
- [23] Kahney, L. (2003). Apple doin' the logo-motion. Retrieved March 3, 2009 from [www.wired.com/gadgets/mac/news/2003/09/60597](http://www.wired.com/gadgets/mac/news/2003/09/60597)
- [24] Levy, S. (1959). Symbols for sale. *Harvard Business Review*, 37(4), 117–124.
- [25] Luo, J., McGoldrick, P., Beatty, S., & Keeling, K. (2006). On-screen characters: Their design and influence on consumer trust. *Journal of Services Marketing*, 112-124.
- [26] Mahnke, F. H. (1996). *Color, environment, and human response*. New York: Reinhold.
- [27] Murray, D. C., & Deabler, H. L. (1957). Colors and mood-tones. *Journal of Applied Psychology*, 41(5), 179–283.
- [28] Odbert, H. S., Karwoski, T. F., & Eckerson, A. B. (1942). Studies in synesthetic thinking: 1. Musical and verbal associations of color and mood. *Journal of General Psychology*, 26, 153–173.
- [29] Plummer, J. T. (1984). How personality makes a difference. *Journal of Advertising Research*, 24(6), 27–31.
- [30] Page and Herr (2002) : Colour component in aesthetics design.
- [31] Silayoi, P., & Speece, M. (2007). The importance of packaging attributes: A conjoint analysis approach. *European Journal of Marketing*, 1495-1517.
- [32] Stern, B. B. (2006). What does brand mean? Historical-analysis method and construct definition. *Journal of the Academy of Marketing Science*, 34(2), 216–223
- [33] Walters, J., Apter, M. J., & Svebak, S. (1982). Color preference, arousal, and the theory of psychological reversals. *Motivation and Emotion*, 6(3), 193–215.
- [34] Wentzel, D. (2009). The effect of employee behaviour on brand personality impressions and brand attitudes. *Journal of the Academy of Marketing Science*, 37(3), 359–374.
- [35] Wexner, L. B. (1954). The degree to which colors (hues) are associated with mood-tones. *Journal of Applied Psychology*, 38(6), 432–435.
- [36] Wright, A. (1988). *The beginner's guide to colour psychology*. London: Colour Affects Ltd.
- [37] Zelanski, P., & Fisher, M. (2010). *Color*. Upper Saddle River, NJ: Prentice Hall.