INFLUENCE OF PERSONALITY DIMENSIONS AND AESTHETIC ORIENTATION ON CONSUMER’S COLOUR PREFERENCE DURING CAR PURCHASE

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Abstract

Purchasing a car can be a normal decision for some, but can be a very special decision for others. Of the many attributes a car signifies, aesthetics is one of the most significant while making a decision. Colour of a car has been rated as a very important attribute as per studies carried by various agencies so far. The objective of the study is to highlight importance of colour in selecting a vehicle and finding a correlation between influence of personality traits of a person and his choice of colour. It has also been seen that the purchase decision is dependent on aesthetic orientation of a person which is in turn dependent on personality traits. So the study tries to find the dependence of colour on both personality as well as aesthetic orientation. Methodology deployed for the study is surveying 214 people of different backgrounds and questioning them on the basis of a questionnaire, and mapping their behaviour basis the responses and generating a pattern for understanding choice of colour dependent on the personality traits and aesthetic orientation. The study performed first detected the personality traits of a person, and hence aesthetic orientation was defined. It was largely seen that personality traits are very significant in determining the colour preference, but linking it to aesthetic orientation gave results which were better linked to colour choices. The study was carried basis age groups, gender, and MHI. In the study a strong correlation was found and a scale was designed mapping color of car basis the personality traits of a person.

Keywords: Personality Dimensions, CAD, Aesthetic Orientation, Colour Choice

Purchasing a car is a very important decision for most of us and many people even regard car as a member of the family. Apart from the cost and technical specifications, what rules the decision in favour of a particular model of the car, is the aesthetics of the car. In fact, a large number of customers do not understand the technical specs and base their purchase purely on the looks and the price of the car. Within aesthetics, the colour of the car plays a prominent role and yet most car manufacturers offer limited colour options to car buyers. Many studies have been done on colour preferences of people with regards to products like apparels, white goods and electronic appliances but no studies have been carried out to identify the colour preference of customers with a high-involvement purchase like a car. This is a maiden attempt to study the impact of personality on colour preferences of customers while purchasing a car.

The esoteric remark, “Any customer can have a car painted any colour that he wants so long as it is black.” made by Henry Ford, founder of Ford Motor Company in 1909, in his autobiography My Life and Work (1922) Chapter IV, [p. 71-72] may sound dated but still holds true in a lot many ways.

It remains a mystery even today as to whether this remark was made because black was the favourite colour of Henry Ford or because no other colour could dry as fast as black. In any case, neither of the reasons stands any ground in today’s world as auto manufacturers and paint manufacturers have developed world-class technology and processes to offer distinctive colour options with great manufacturing ease and speed. In spite of this progress, the customer is still given a small basket of six to eight colours to choose from while purchasing a car. At times, the customer has to choose whether he would want to pick up the car in any available colour or wait for months together to take delivery of the car in the colour of his choice.

Through this study, we are trying to understand the significance of colour choice for customers while they are making a car purchase. Also, there is an effort to understand the different personality types of an individual and the level of aesthetic orientation in each personality type. Both variables, that is, consumer’s personality type and aesthetic orientation have been analysed individually and jointly to see the impact on colour preference at the time of car purchase.

In this research, the main objective is to see if colour preference has any impact in the consumer’s decision at the time of purchasing a car. To study this effect, we shall test the impact of various personality types on car colour preference. In addition to this, we will also review presence of aesthetic orientation and its significance in colour preference.

We have also tried to study the demographic factors of consumers and the impact each factor, namely, age, gender and income has on preference for colour.

Based on the above discussion, the aim of the present study seeks to gain insight in the aesthetic preferences of consumers while buying a car and the usefulness of the knowledge of this preference to both – car manufacturers and consumers.

Literature Review

Cohen’s Original CAD scale

Cohen [1, 1967 #396] developed CAD scale to measure interpersonal orientation, which was used by marketers to predict consumer behaviour. CAD scale was based on Horney’s [1, 1945 #391] tripartite model of interpersonal orientation. The dimensions were compliant, aggressive and detached.
Compliant individuals are identified by Cohen [, 1967 #396] as being people in need of love and appreciation; aggressive individuals as manipulative of others; whereas the detached individual as distant and independent from others. Hence, compliant, aggressive and detached individuals can be described as moving toward, against, and away from others [Cohen, 1972 #282]. Also an individual may exhibit some of the traits of being compliant, aggressive, and, detached at the same time.

Studies used the CAD scale demonstrated relationships between the three dimensions (Compliant, Detach and Aggressive) and patterns of brand and product usage, television and magazine preferences [Cohen, 1967 #396]. Kernan [1971 #394] also found a relationship between the dimensions and the use of information sources, and fashion approval. Gabbott [1996 #42] found the specific pattern of CAD scale measurements of individuals based on personal interaction in the service setting.

Revision of the CAD Scale

After conducting exploratory and confirmatory factor analyses, a refined and revised version of the CAD scale was developed by Kerryn Jackson and Mark Gabbott [, 1998] academics of the Monash University, Australia. The revised version of the CAD contained 7 of the original items measuring the compliant dimension, 4 measuring the aggressive dimension, and 7 measuring the detached dimension.

DuPont announced that silver, black and white are the top colours in the first-ever ranking of worldwide vehicle colour popularity.

DuPont Global Automotive Colour Popularity Report, which is regarded as the most authoritative source for automotive colour popularity and trends with detailed breakdowns for the top automotive markets studied the top global colours as in Table 1.

Although the results suggest an ongoing convergence of colour choice globally with colour preferences becoming more homogeneous across regions, distinct regional differences remain. The top three colours — black, white and silver (refer Table 2)— continue to show strongly around the globe with growth of these colours across regions. The top colours become ‘aspirational’ with a universal appeal.

Source: DuPont Automotive Systems 2011 Global Car Popularity Report

Changes across Markets

Colour preference change from one market to another year to year citing of various factors like new vehicles being introduced; reduce in size of vehicle, consumer preference and economy as a whole. These and other societal, cultural and demographic influences affect regional trends over time.

Automotive Colour Trends

In the automobile industry, it is very important to forecast trends of next 2-3 years as the time taken to develop, source and manufacture a vehicle is almost the same. There are trend shows held like the ones of “Contrast of Colour” which focus on global interest in automobile coatings, it is a fresh approach to long-lasting colour preferences.

There can be ample of reasons to purchase a new car, yet colour is often the one of the most important factor before purchasing a vehicle. Consumers have become very savvy about how and where to look for latest colour trends and they do look for guidance on “what’s new” (and newsworthy) in colour.

Web-portal, http://www.automotoportal.com/article/what-does-the-color-of-your-car-tell-about-you mentions that the colour of car speaks volumes about one’s personality and driving habits. Business class would prefer car with darker color, bus and truck drivers like lighter, and sports car drivers often choose cars with strong appealing colours.

Red cars denote those who are full of zest, energy and drive, brave, ambitious and impatient characters, who also think, move and talk quickly. The color red is a synonym for sex, speed, thoroughness and dynamism.

Brown or orange color denotes those who are practical, independent and who like to race. These colors represent
There is no influence on the colour preference of the consumer.

Pink represents creativity and individuality. Pink cars are chosen by gentle, loving and affectionate drivers. Silver and grey cars describe someone who is cool, calm, and slightly aloof and who is prone to criticizing other drivers. Black cars are chosen by stubborn, disciplined people, who like classic cars and elegance. They are not easy to manipulate. White cars represent status-seeking, extrovert drivers, who are also optimistic, simple and who you can rely upon.

Aesthetic Orientation

I. C. McManus and A. Furnham [, 2006] studied the relationship between personality traits, demographics and aesthetic preferences. The study assessed the role of personality, education and demographic factors such as age, gender, etc. on aesthetic activity and came to the following conclusions:

- More aesthetic activity was associated with music and art education.
- Science education had a substantial negative relationship with aesthetic activity, both directly and also indirectly via reduced art education.
- More aesthetic activity was particularly related to higher scores on the personality factor of openness, and also to lower scores on agreeableness and conscientiousness.
- Higher parental social class was also associated with more aesthetic activity, as also was lower age.
- Sex had no relationship to aesthetic activity, as neither did masculinity, femininity.
- Positive aesthetic attitudes were also related moderately to aesthetic activity, but were particularly strongly related to openness to experience, and somewhat less to extraversion.
- Class, age and sex had no direct relationship to aesthetic attitudes.

Chinese Consumer aesthetic attitude

Yaonan Lin and Ching Yi Lai[, 2007] developed a useful framework for understanding consumer aesthetic attitudes in 2007. The findings of the study suggest that some aspects are very much influenced by culture norms in China. The most important of these are aesthetic “utility”, “conformity”, “simplicity” and “feelings” each being derived from traditional values in China. Other aspects of the aesthetic attitudes, such as “westernization”, and “novelty” are derivative of western culture.

Consumer aesthetics has become an important area of marketing lately. A good product design is essential in a competitive market and whether or not a product is of good design depends mainly on consumer’s aesthetic attitude. Holbrook and Hirschman [,1982] showed that consumption always depends on subjective consumer aesthetic attitudes, which themselves typically root from value and cultural background.

The study suggests that the dimensions of “Utility,” “Conformity,” “Simplicity,” and “Feeling” seem to be derived from the Chinese traditional values, whereas those of “Westernization” and “Novelty” seem to come from Western cultural influences. With respect to their rituals, cultural artifacts, and cognitions, Chinese and Western cultures are different, but their underlying values are becoming mixed in the ‘cultural melting pot’ [Gudykunst, Ting-Toomey, & Nishida, 1960].

Research Hypothesis

Based on the research problem and literature review the set of Null Hypothesis developed are:

- $H_{10}$ There is no impact of consumer personality (CP) on colour preference (COL) at the time of car purchase.
- $H_{20}$ There is no impact of a consumer’s aesthetic orientation (AO) on the car colour preference (COL).
- $H_{30}$ There is no impact of a consumer’s personality (CP) when routed through aesthetic orientation (AO) on the car colour preference (COL).
- $H_{40}$ There is no influence on the colour preference (COL) in reference to the moderating variables demographics (gender, age, income) of the consumer.
- $H_{50}$ There is no effect of consumer personality (CP) on aesthetic orientation (AO) of the consumer.
- $H_{60}$ The choice of colour is not predictable for different consumers’ categories and it is only by chance.

In order to gain a better understanding of customer’s colour preferences during the purchase of a car, we have developed and formulated each of the research questions on the theoretical concept of the mediation model.

Frame of Reference: Mediation Model

In statistics, a mediation model is one that seeks to identify and explain the method that underlies an observed relationship between an independent variable (IV) and a dependent variable (DV) via the inclusion of a third explanatory variable, known as a mediator variable (MV). Rather than hypothesizing a direct causal relationship between the independent variable and the dependent variable, a mediation model hypothesizes that the independent variable causes the mediator variable, which in turn causes the dependent variable. The mediator variable, then serves to clarify the nature of the relationship between the independent and dependent variables. While the concept of mediation as defined within psychology is theoretically appealing, the methods used to study mediation empirically have been challenged by statisticians and epidemiologists and formally derived by Pearl (2001).
A strong desire to surpass others' achievements seems AGG 4

Detach
Enjoying a good movie by myself is DET 1 .76 .88
For me to pay little attention to what others think of me seems DET 2
Living alone in a cabin in the woods or mountains would be DET 3
Being free of social obligations is DET 4
For me to avoid situations where others can influence me would be DET 5
If I knew that others paid very little attention to my affairs it would be DET 6
For me to work alone would be DET 7

Aesthetic Orientation
Listen to music (popular, classic) AES 1 .76 .84
Go to concerts, discos, opera, art galleries AES 2
Play a musical instrument AES 3
Read about art in newspapers, magazines or books AES 4
Draw or paint AES 5
Read a novel, non-fiction book (not for work or study) or poetry AES 6
Go to the cinema, theatres (plays, musical, etc) AES 7
Act or take part in a theatre AES 8
Go dancing (any form) AES 9

**Results and Analysis**

**Influence of Consumer personality on Colour Preference and Colour Choice**

<table>
<thead>
<tr>
<th>TV</th>
<th>MV</th>
<th>DV</th>
<th>Test</th>
<th>Significance</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAD</td>
<td>Colour Preference</td>
<td>Linear Regression</td>
<td>0.014</td>
<td>Significant</td>
<td></td>
</tr>
<tr>
<td>Compliant</td>
<td>Colour Choice</td>
<td>CHI-Square Test</td>
<td>0.602</td>
<td>Insignificant</td>
<td></td>
</tr>
<tr>
<td>Aggressive</td>
<td>Colour Choice</td>
<td>Linear Regression</td>
<td>0.424</td>
<td>Insignificant</td>
<td></td>
</tr>
<tr>
<td>Detach</td>
<td>Colour Choice</td>
<td>Linear Regression</td>
<td>0.002</td>
<td>Significant</td>
<td></td>
</tr>
<tr>
<td>Willingness To Wait</td>
<td>Linear Regression</td>
<td>0.000</td>
<td>Significant</td>
<td></td>
<td></td>
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<tr>
<td>Max Waiting Time</td>
<td>Linear Regression</td>
<td>0.000</td>
<td>Significant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aesthetics</td>
<td>Linear Regression</td>
<td>0.050</td>
<td>Significant</td>
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</tbody>
</table>

The result shown above were significant (0.014) for the regression between CAD score and Colour Preference. Significance of Chi-square test for each personality type are compliant = 0.602, aggressive = 0.424 and detached = 0.002. Except for the influence of Detach personality type where the result is significance, impact of compliant and aggressive personality types in the choice of colour is insignificant. Results of regression between CAD and other Dependent Variables (willingness to wait, Max waiting Time) and Aesthetic Score were found to be significant.

**Influence of Consumer Personality on his Aesthetic Orientation**

Result seems to be significant (however ANOVA is 0.050 > .05 which may improve further by increasing sample size
and precision) hence we find CAD is influencing the aesthetic orientation of the consumer. It may be noted that here also, aggressive personality type does not have a significant impact on the aesthetic orientation like in earlier analysis of aggressive personality to colour choice.

Influence of Aesthetic Orientation on Colour Preference and Colour Choice

ANOVA is .000, that is, the aesthetic orientation of a person is strongly influencing the colour importance and has a significant impact on the colour preference at the time of car purchase. Chi-square test of aesthetic orientation to the colour choice is significant (.002). It rejects the null hypothesis and clearly states that it is not only by chance that the aesthetic orientation has significance in the choice of colour. It states that this phenomenon is predictable.

Indirect Effect of CAD personality to Colour Preference and Colour Choice

The result is significant i.e. Personality Types and Aesthetic Orientation both are influencing the importance of colour in consumer purchase behaviour.

Partial Mediation Effect

Independent variable – CAD, Dependent variable - Colour Importance

Mediating variable - Aesthetic Attitude, Moderators – Gender/Age Group/Income

We can see that significance Beta coefficient of Compliant, Aggressive and Detached personality have reduced and thus it can be interpreted that there is partial mediation.

Influence of Demographic Variables on Preference and Choice of Colour

We find no significant impact of gender on colour preference and choice. However, age and income have a significant impact on the colour preference.

Influence of Gender to colour preference and Colour Choice

Result is not significant (ANOVA: 0.691) hence we didn’t find impact of gender influencing the importance of colour choice. As the result is insignificant it can be interpreted that COLOUR PREFERENCE is important irrespective of gender however they differ in specific colour choices.
Hence it can be interpreted that both genders were having importance of colour while there choice of colour were significantly different.

**Influence of Age to Colour preference and Colour Choice**

Regression analysis: Age to colour preference : Result is Significant (ANOVA: 0.015) hence we find impact of age group influencing the importance of colour choice. 

CHI-Square: Age to Colour Choice : To understand the influence of Age on specific colour choice, CHI-Square test is conducted

Further analysis of Chi-square test reveals the rejection of null hypothesis (Ho) i.e. the impact of age group on specific colour choice is by chance is accepted as the significance is 0.105 > .05. This means that age group preference for specific colour choice is by chance only

**Influence of Income to Colour preference and Colour Choice**

Regression analysis: Income to colour preference : Result is insignificant (ANOVA: 0.904) hence we didn’t find impact of income group influencing the importance of colour choice. 

CHI-Square: Income to Colour Choice

Further analysis of Chi-square test reveals the acceptance of null hypothesis (Ho) i.e. the impact of income group on specific colour choice is by chance is accepted as the significance is > .05. This means that income group preference for specific colour choice is not predictable.

**Findings, Conclusions and Contributions**

Based on the results of the above analysis, the findings and conclusions of the study are presented in this section. Then we have tried to contribute some managerial implications. And finally suggestions for further research are presented.

**Findings and Conclusions**

As stated in the initial section, the research objective was to gain better understanding of consumer’s preference for colour while making a car purchase. In order to understand this phenomenon, few questions were identified based on the literature review and the aesthetic orientation of people. The research questions formulated were:

- impact of consumer personality on colour preference at the time of car purchase?
- impact of a consumer’s aesthetic orientation on the car colour preference?
- impact of a consumer’s personality when routed through aesthetic orientation on the car colour preference?
- Is there any influence on the colour preference in reference to the moderating variables demographics of the consumer?
- the effect of consumer personality on aesthetic orientation of the consumer?
- Is the choice of colour, predictable for different consumers’ categories?

A web-based survey was done and responses from across 151 participants were analysed to seek perspectives from the target audience who has purchased a car in the last 3 years or will purchase a car soon. The section below provides a summary of findings and conclusions followed by the sequence of: Compliant, Aggressive, Detached, Aesthetic Orientation, Demographics.

**Compliant**

Karen Horney [Self-analysis, 1942] believed that people’s personality was actually their adaptation to their culture and also a result of the defense mechanism they developed to deal with difficult relationships. This formed the basis for CAD, a tool to understand one’s personality. The compliant personality category is seen as a process of “moving towards people”. The findings of the survey revealed a strong bent towards the compliant personality type, that is, the compliant personality in the respondents was very high. This stems from various reasons like:

- Indians have a deeply-rooted culture and belief in spirituality and traditions;
- Traditional Indian family values are highly respected and even though nuclear family are becoming common in urban areas, multi-generational patriarchal joint families have been the norm;
- Our society has introduced the art of physical and mental discipline through yoga and other exercises which deeply imbibes the compliant personality.

**Aggressive**

An aggressive personality type is often defined as those individuals who are high-achieving workaholics, drive themselves with deadlines, and are unhappy about delays at work. Such individuals would make sufficient use of money, power and influence to surpass others. Because of these characteristics, such individuals are often described as “moving against people”. During our findings, we found a very low component of aggressive personality in the participant’s interpersonal orientation. Also when tested on its impact on the dependent variable of colour preference, the result was quite insignificant.

An aggressive personality type was found to have insignificant impact when tested on the aesthetic orientation too. While there could be several reasons for minimal presence of aggressive personality type, the primary reason is the compliant nature of Indians.

**Detached**

Detachment Needs is also called the “moving-away-from” or “resigning” solution or a detached personality. They
suppress or deny all feelings towards others, particularly love and hate or like and dislike. So similar to compliant, the responses from detached personality were significant when tested for colour preference but when closely looked at the choice of colour, the impact was insignificant.

Aesthetic Orientation
Aesthetic orientation examines our affective domain response to an object or phenomenon. Aesthetic judgments usually go beyond sensory discrimination and may be culturally condition to some extent. Classical Indian architecture, sculpture, painting, literature, music, and dancing shared the underlying spiritual beliefs of the Indian religio-philosophic mind with one another.

The CAD did influence the aesthetic orientation of the consumers significantly and the aesthetic orientation of a consumer strongly influences his/her decision or attitude towards colour preference while purchasing a car. A Chi-square test on the same also rejected the null hypothesis and ascertained the presence of a relationship.

Demographics
We tried to carry out the study keeping in mind the impact of gender, age and/or income on the outcome variable. It was important to see if the demographics of the consumer had any role to play in the colour preference of the car.

Gender did not show any significant impact on the colour preference of car but there is a relationship which can be predicted when the specific colour choice is tested with gender.

Age, like gender did not show much significance in the colour preference but suggested that there is a relationship when tested for age and choice of a specific colour.

Income did not impact the significance of colour preference but revealed the acceptance of a null hypothesis when tested for choice of colour.

Contributions
Impact of colour preference during car purchase
Since measuring a consumer's personality and its relation to purchase behaviour is always a difficult task, it is also evident that consumers do prefer colour as an important aesthetic at the time of car purchase. This has been measured across various variables of personality, aesthetic orientation and demographics.

Owning a car is becoming a necessity for most households and the increasing sales figures and entry of global players in the Indian market communicate this fact. Individuals do give significant weight to aesthetics at the time of car purchase and colour is one of the important aesthetics. The participants have showed their different opinions based on the different backgrounds of culture, personality, age groups and aesthetic choices.

Managerial implications
The important consideration for managers not only in car manufacturing companies but also managers in the car-paint manufacturing units is to study this colour preference of consumers regularly. There are surely a lot of reasons to buy a car, yet colour is an important decision criterion and more often the 'driver' for purchasing a vehicle. Consumers are always on the look out for colour trends and they do go through a fairly long thought process to decide their choice of colour while purchasing a high-involvement product like a car.

In addition to this, they can look at several combinations of colour preference with respect to different personality types and demographics. While introducing a new model of a car, the company anyways carries out a study of their target audience personality and the perceived association with the car. It can be an added advantage to understand the colour choices of consumers with respect to different types of car.

Implications for Further Research
Due to the exploratory and descriptive nature of this study and limited literature review in this area, there are limitations to the present study and some more opportunities and suggestions for further research are presented.

Exclusion of Colour Variants
For the purpose of our study, we have included the colours in their original or basic form to avoid spread in responses. Hence we have taken the colours as black, blue, red, green, grey, white, silver, yellow and made it mandatory for the respondents to choose one of these. Variants like dark blue, light blue, silky silver, off-white, maroon, lemon, turquoise blue, etc have been kept out of the scope of the study to limit the responses within a close loop to arrive at strongly represented responses.

Gender-wise choice of specific colour
In this study, we tried to find out a relation of gender between gender and the importance of colour at the time of car purchase. However for those respondents who did give importance to colour preference and indicated their choice of colour, we did not proceed to study the gender-wise preference of a specific colour.

However, the same can be done with a post-test tool of Haberman. The usual belief is that Male respondents prefer dark colours like black and blue and Female respondents...
prefer lighter or chroma colours like white, red and silver since their preferences are towards gentle and pleasant colours.

Choice of colour as a spur of the moment decision

Often the decision of colour and other accessories is at spur of the moment. People finalise the car and then start thinking about such variables strongly. Hence it is often seen that the time-span of such decisions is very small. This shall be a limitation of the research, whereby it is assumed that each respondent has invested sufficient time in deciding the colour preference for his car purchase.

Recall of the decision made for colour preference

In high involvement products, the recall of decisions is usually very high. Even in the case where the car purchase by the respondent is slightly dated, even then there is still a fair chance that he will remember the reasoning for his decisions because car purchase is a high involvement decision. Also if there is a limitation of such nature, then the same should be handled by conducting Focus Group Discussions.

Determine the Specific colour choice by personality type

One may try to identify if a particular personality type has a liking towards any specific colour. For example, would an aggressive personality prefer the colour black would silver or white be the popular option for a compliant personality. This can be done by taking the median for each of the personality types C, A and D. Then determine the above median and below median for each personality type and see the colour choice made by the respondent. Use of cross tabulation or Chi-square has to be made to arrive at this result.

Impact of Price Discrimination based on colour

In our research we have taken only age/gender/income as demographic variables. Impact of other demographic characteristics such as Geographic, religion etc may be studied to formulate improved supply chain management incorporating colour choices.

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