

## Neurodesign; An Art of Product Packaging: Understanding Customer's Psychology of Colour with the help of Neuromarketing- A Review Paper

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### ABSTRACT

*This paper presents the concept of colour psychology in packaging including those methods used for studying consumer's brain activity. The paper focuses mainly on the role of neuromarketing in product packaging. It attempts to highlight the ways in which neuromarketing can be used by research organizations with reference to colour psychology in packaging. Neuromarketing is that area of marketing that studies the clients and investigate the emotional response to marketing stimulus. Neuromarketing is a superlative method for understanding marketing stimuli, since all business communication is eventually judged in the consumer's brain. This is also the case for product packaging. A new part of this marketing is the color psychology, which is on the whole how colors are used to persuade your mind. In fact some research studies have proved that humans have key response to non-verbal communication and product package designers, marketers, and graphic and industrial designers can find out a lot from neurodesign. Neurodesign focuses how and why our brains are fascinated to some colours more than others, and why do we recognize some features as naturally more aesthetically gratifying than others.*

**Key Words:** Neuromarketing, Psychology of colour, Neurodesign, Neurensics

### I INTRODUCTION

Neuromarketing is a field of marketing that connects neuroscience with brand architecture, where neurons meet new products. Though, name neuromarketing can be illusory: it is not a type of marketing, but it is a way to learn the impact of marketing and advertising on consumer's brain. Those techniques that fall under the reign of neuromarketing are based on scientific principles about how humans really believe and come to a decision, which relies on a host of brain processes of which we are mostly unaware.

Measuring consumer reaction and behaviour in a Neuromarketing research might include the following techniques:

- (a) Eye tracking experiments (measuring eye gaze patterns, say, on a landing page)
- (b) Facial Expressions
- (c) Behavioural experiments (for example, considering how changes in the colour of a product impact a customer's attitude of it)
- (d) Biometrics (body signal measures) that measure perspiration, respiration, heart rate, and facial muscle movement
- (e) Neuromeric (brain signal measures) that measure electrical activity (electroencephalography [EEG]), and blood flow (functional magnetic resonance imaging [fMRI]) in the brain

The purpose of neuromarketing has obtained fame over the last decade. The birth of the emerging field of neuromarketing generated wide-ranging, ongoing debates what benefits they take. Ale Smidts first coined the word neuromarketing in 2002. He studied consumer's sensorimotor,

cognitive, and emotional response to marketing stimulus.

Author and marketing guru Martin Lindstorm's bestselling book "Buyology - Truth and Lies about Why We Buy" (2010) proves from his investigational studies that subconscious mind plays a chief role in consumer's buying decisions. The Lindstorm seems to be puzzled while the marketers still try to untie the gap between the consumer purpose and accomplishment.

Neuromarketing is a new filed of marketing - it is a new way to marketing research. According to Martin Lindstorm's there are six major areas where neuromarketing is used today: Branding, Product design and innovation, Advertising effectiveness, consumer decision making, On-line experiences, Entertainment effectiveness.

### II PSYCHOLOGY OF COLOUR IN PRODUCT PACKAGING

A new part of this marketing is the color psychology, which is on the whole how colors are used to persuade your mind. In fact some research studies have proved that humans have key response to non-verbal communication.

According to Carla Nagel Administrator NMSBA (Neuromarketing Science and Business Administration) quoted in his blog; Neurensics has used neuromarketing to investigate several packaging designs, resulting in a very important insight. The brain reacts much more advantageous to packaging that communicates the brand's image than packaging that communicates brand incongruent information. Perhaps it is better to no

longer use the term product packaging, and instead introduce the term brand packaging.

Colour is an exceptional basis of information, It has been observed that 62-90 per cent of consumer's buying decision is based on colours only (Singh, 2006).

Colours have reasonable effect on consumer's feelings, thoughts, and behaviors; so, marketers have engaged colour as a visual mnemonic device to support cognition and thought and grasp consumers' attention (Labrecque, Patrick, & Milne, 2013).

Moriarty (1991) discusses colour, explaining that colour in advertising serve a range of explicit purposes. It creates attention, it draws interest, it drives, and it actions memo ability. Moriarty more explains that colour can be used as a indication to either connect with or represent something else. Moriarty also claims that the primary function of colour in advertising is to help develop attention and affecting responses.

The idea that colour preferences are identified through relations is a potentially important discovery for marketing researchers concerned in formative colours for products. Rather than examine general colour preferences among consumers, it may be preferable to learn consumer's colour relations as a basis for understanding the emotional aspects of colour. For example, Marketers can also use the theory of associations to create meanings for particular colours or to develop a brand image around a colour (Grossman & Wisenblit 1999).

As Odekerken-Schröder, Ouwersloot, Lemmink, and Semeijn, (2003) rightly stress when consumers involved in purchasing, they generally get several factors and areas into account. There is consent among marketing researchers and marketing managers that product shape or design and product aesthetics are necessary tools to put on leading

advantage in cutthroat market (Kreuzbauer & Malter, 2005).

Visual stimuli on packaging create a center for consumer's attention and leads consumers to outline perceptions about various products; these perceptions notably exercise influence on consumer's buying decision (Venter et al., 2011).

Graphics and color are critical parameters in influencing consumer's purchase decision which producers and marketing experts should not turn a blind eye to them in packaging. Graphics includes image layout, color combinations, typography, and product photography (Silayoi & Speece, 2007).

The psychology of colours deals with discovering the impact of each individual colour on different people and the emotional state they provoke in them. This particular field of psychology is very complex since if a person shows a strong adverse emotion towards a particular colour it is often based on a strong psychological reason closely related to their personality. By closely studying each colour, characteristics of personality can be discovered. Colours that cannot be obtained by mixing various pigments are known as basic colours, and they are red, blue and yellow. Secondary colours created by mixing two primary colours such as orange, violet and green colours.

Despite the fact that the experience of a particular colour is very individual, there are two types of colour that carry universal meaning. Red, orange and yellow colours belong to the red spectrum of colours. These colours are warm colours that provoke emotions varying from warmth and comfort to anger and hostility. Blue, violet and green are on the blue side of the spectrum and are called cold colours. They predominantly provoke the feeling of peace, however they can also lead to the feeling of sadness or indifference.

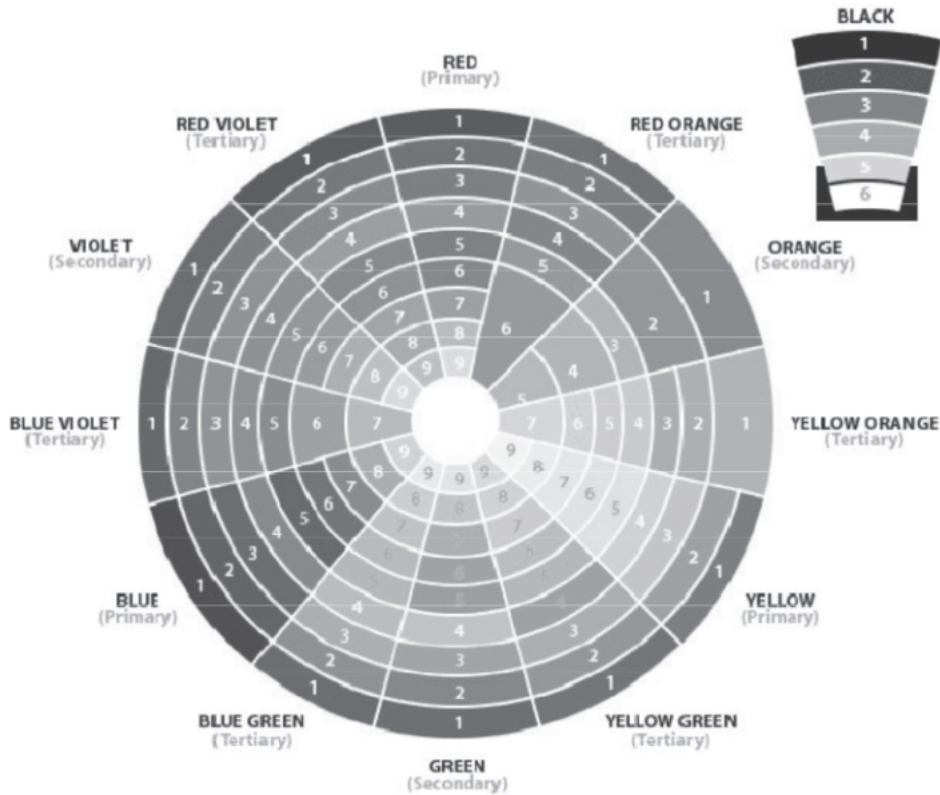


Fig.1 Colour Spectrum

Source: <http://www.rewaj.com/wp-content/uploads/2010/10/color-wheel.gif>

### III RESEARCH OBJECTIVES & METHODOLOGY

(a) Objectives

- (i) To study the neurodesign: stance of neuromarketing in identifying the consumer’s psychology of colour.
- (ii) To understand the current product packaging changes with particular reference to colour psychology of products with neuromarketing.

(b) Research Methodology

Study determines the need for the exploratory research to understand the conceptualization of colour psychology of product in the minds of the consumer and marketer through neuromarketing. An exploratory research is also attempt to lay the groundwork that will lead to future studies, or to determine if what is being observed might be explained by and examine in the light of the existing literature. Thus qualitative research is conducted with the help of secondary data, previously existing literature review, facts sheet journals and expert blogs.

### IV NEURODESIGN: THE NEW EDGE OF PACKAGING

Neuromarketing has been now days implemented widely in marketing specially in product and package design, because it is very difficult to ascertain customer’s likeness and dislikeness towards product and it’s designing.

It is Neurensics that applied neuromarketing to scrutinize a number of packaging designs, consequential in a very significant insight. It has been observed that brain reacts more helpful to packaging that communicates the brand’s image than packaging that communicates brand incongruent information. Possibly it will be better to shift product packaging to brand packaging. Brand packaging is all about what does create a package differ from competitors? What materials should be applied to gain certain behaviors, perceptions and feelings in the consumer? How can a packaging influence our assessment of its contents? How can a packaging add to brand loyalty?

The newly introduced field of “neurodesign” is now making attempts to respond the above brand packaging related questions. It is all about applying understanding on the operations of the human brain for the design of products and packaging desired by consumers.

On the ground of previous studies conducted till date investigating packaging color, it is accomplished that consumers take benefit of colors

as stimulus-based information and packaging color grasps consumers' awareness, affects preferential decisions, and also keep potential to converse the information about the product at the point of purchase (Kauppinen- Räisänen, 2014).

In her most recent research, Kauppinen- Räisänen (2014) suggests a framework which figure out the importance of packaging color at the point of purchase. Figure 1 presents this framework.

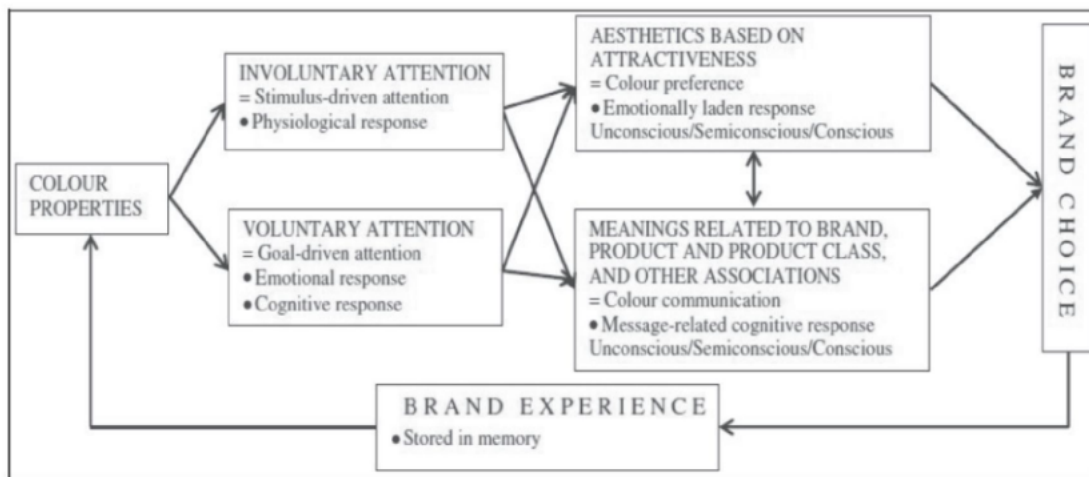


Fig. 2 Packaging colors' functions at the point of purchase

Source: (Adapted from Kauppinen- Räisänen, 2014).

Packaging colours play a vital role in establishing consumer's decisions as this has been found that there is a passionate connection between colour and feelings. Colours are like driving force for generating an explicit kind of response in the human brain as well as human body. For example, colour red increases the blood pressure and pulse rates whereas Colour blue lowers the blood pressure and respiration rates. Colours become a source of a brand's identity for a marketer as it associates to consumer's feelings.

It is imperative to stress that colours have major importance in customer's life and particularly in marketing of a product. Table 1 summarizes the connotations and worth of different colors in

customer's life and mainly in marketing based on Renvoise and Morin 2007.

As per <http://neuromarketingindia.blogspot.in/> on topic neuromarketing in India while marketing of new products, it is crucial to consider that consumers place visual appearance and color above other factors when shopping (1% sound / smell, 6% texture, 93% visual appearance). 85% of shoppers place color as a primary reason for why they buy a particular product. Color increases brand recognition by 80%. Brand recognition directly links to consumer confidence.

**Table-1**  
**Importance Colors for Customers**

Colour	Symbolizes	Used By
Red	Power, Activity, Rescuc	Coca- Cola, Red Cross, Business 2.0
Pink	Calm, Feminism	Barbie, Pepto- Bismol, Mary Kay
Orange	Movement, Construction, Energy	Cingular Wireless, SalesBrain, Home Depot
Yellow	Light, Future, Philosophy	Kodak, National Geographic, Best Buy
Green	Money, Growth, Environment	John Deere, Starbucks, British Petroleum
Blue	Trust, Authority, Security	IBM, Microsoft, American Express
Purple	Royalty, Spirituality, New Age	Sun, Yahoo, Barney

(Source: Renvoise and Morin 2007:141)

## V CURRENT TRENDS – PRODUCT PACKAGING

Campbell's Soup The company chosen neuromarketing to get a clear perspective of what the average consumer was looking for: By measuring galvanic skin response, heart rate, and other biometrics of over 1,500 people; triangulating data over two years between three neuromarketing firms; and cross-referencing the data with traditional methods; research definitively showed Campbell's packaging was not appealing to consumers. After studying the effect of packaging using brain scans, ECG, GSR and other biometrics ,they found that the logo of Campbell's at the top deterred the consumers from buying certain soups as it made their search difficult. Additional research concluded that the spoon in the packaging did not elicit much activity in the brain as it had little emotional engagement. They decided to replace the spoon with steam to make it look more realistic and replaced the bowl with a bigger one. Also they placed the Cambell's logo at the bottom instead of keeping it at the top, this change in the design evoked much greater activity in the brain resulting in increase of sales.

Baked Lays Frito-Lay, a division of PepsiCo, has also applied neuromarketing to convert Baked Lays packaging design and colour, with the goal of appealing to female consumers. Research showed women snacked twice as much as men, but were buying Frito-Lay products half as much.

Tropicana by using neuromarketing, could have established the emotional attachment many consumers had to the current packaging, and enhanced the look to leverage loyalty rather than selecting a new, and alien, design.

Sun Chips recently suffered a packaging crisis because of the beginning of 100 percent compostable bags. In addition to being "green," the new bags were very loud Instead of jumping on the environmental bandwagon without considering potential ramifications; Sun Chips had applied the application of Neuromarketing to gather information on consumer preferences regarding colour of product packaging.

Axe deodorant while the original Axe deodorant design had no text, they put two words with white colour on the product packaging: 'seductive', which has a relationship with Axe's brand image, and 'powerful', which is related to the product. Neurensics saw an increase in brain activation in regions that are important in determining purchase intention, when the word 'seductive' was used.

Gressingham Foods took help from U.K.-based design consultancy Elmwood for recasting its brand identity as premium but accessible. Elmwood uses biomotive triggers in its designs, arguing that certain graphic elements conjure instinctive responses from consumers. A cusp shape (think a shark fin or horns) conveys fear or caution, while curves represent softness and comfort.

Gerber Baby Food conducted a research that uncovered negative emotional reactions to various graphic elements, including the graphics projected to get across baby stages, the advantage bands and less-prominent health claims. These responses suggest either confusion in explanation and/or difficulty in reading smaller print. On the basis of research they decided that there is a need to “clean up” and simplify the packs with new colours and text, to make them more accessible to shoppers.

Sunsilk in its advertisement (with the woman’s eyes looking at the product), as the heatmarks show, motivates the spectator to get a better glance at the product’s packaging, which facilitates visual memory and consequently improves the possibility of a shopper recognizing the brand when glancing at it on a shelf.

Imodium Anti-diarrheal medicine capsules by using neurodesign they have created three designs for their Anti-diarrheal medicine capsules : “On “Packaging 3” the word “Anti-diarrheal” appears in RED colour, this is far from the “relief sought”. On “Packaging 2” the word “Anti-diarrheal” appears in BLUE color. Psychologically one of the connotations of the BLUE is peace. On “Packaging 1” is a bit more of what should the packaging of this product be. Indeed, a study conducted concerning the psychological reactions of patients at the sight of medicine capsules showed that the colors would be appropriate turquoise.

## VI CONCLUSION

Research reflects and proves the stance and emergence of neuromarketing as a new tool to design the packaging and colour of product. With the application of neuromarketing a new field has also emerged i.e. Neurodesign: making attempts to respond to the above brand packaging related questions as well as cater with the psychology of colours . It is all about applying understanding on the operations of the human brain for the design of products packaging and colour desired by consumers and Packaging colours play a vital role in establishing consumer's decisions as this has been found that there is a passionate connection between colour and feelings. It is imperative to stress that colours have major importance in customer’s life and particularly in marketing of a product. Brands as Campbell's Soup ,Baked Lays,

Tropicana, SunChips, Axe deodorant, Gressingham Foods, Gerber Baby Food, Sunsilk, Imodium Anti-diarrheal medicine capsules and many others has already adopted neurodesign as a tool of designing their product’s packaging as well as colour of packaging.. Managers also need to invade this emerging trend of marketing for positioning their brand in the subconscious mind of their consumers. Thus neuro marketing with neuro design will have a great potential for the marketers to understand the psychology of colours of consumers in the coming years.

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