

Neuro Optics in Contemporary Marketing

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Abstract: Colors have association with the origin of living things on this earth planet. Human senses are fundamental to the human species and play a critical role in our understanding of the world. This research study is an outcome of review of various research studies in human physiology, psychology and social anthropology. Among various senses, the sight has been considered as the most influential input for perception based behavioral outcome. This study also recognizes the interactive dynamics between color and human behavior, culture, gender, emotions and health. The output of the study has brought out the leverage that the marketers have on color as the input for customer acceptance and adoption at various levels of decision making process. The study has brought out the cross cultural connotations of colors which need greater attention on the part of global brands and markets. It opens the avenues for further research in the area of transforming consumer behavior through colors. Most of the revelations in the paper are by reviewing the research studies carried out across the globe.

Keywords: Color, Marketing, Color and Moods, Color and behavior, Consumer behavior, marketing, Perceptions, influence of color

Introduction

With the advent of living things on the planet earth, the colors have their own significance. The human race well before and after the evolution process, the colors have multi-dimensional impact on human life irrespective of the religion, geographical region, anthropological origins and life style. Colors have significant role in the physical as well as the psychological configuration of human beings. This paper is of conceptual description in nature to understand the influence of colors and the research related to it with active focus on color and optical stimuli related aspects.

Humans and Color

Human senses are fundamental to human species. Our senses are smell, taste, touch, hearing and sight which make us to understand the world.(Lindstrom,2005).The ability to be receptive by various stimuli and signals of senses, ability to segregate, recognize and recall are unique with humans. In the Global economy, the players address the targeted recipients of messages through various senses while offering their products and services, as the studies by Hulten (2009) indicates. It goes a long way in recognizing and recalling the brands. Neural marketing refers to leveraging the human neurological sciences for accomplishing the marketing tasks. Senses of human beings are leveraged here. Hence, the term “Sensory marketing” is used to communicate the purpose without ambiguity. It implies pleasing the customer’s senses and influencing their perception and behavior as elaborately stated by Hinestroza (2014).

The literature extensively support that among various senses, the sight has the highest influence as the input for perception based behavioral outcomes (Hulten et al 2009). The humans corroborate various external stimuli to synthesize information and out of various forms of stimuli, the most influential impact is created by visual information according to Janson et al (2004) and further concurred by various studies in different geographical contexts by Kauppinen (2010) and Chang (2010). The psychological impacts on humans by color has been established by the studies of Caivano (2007) which includes the ability of sight

in creating predispositions, beliefs and positive or negative orientation in the reinforcement process among humans through colors. The study also establishes the influence of color in influencing norms, reactions and individual behavior.

Colors have the ability to carry specific meaning and communicating information by which it helps us create feelings and to activate memory stimulation and progress in the learning process, as established by Crawley (1993). The assessment by humans of events based on color stimuli is estimated in the range of 65 -90% as studies by Satyendra Singh (2006) indicates.

The Global economic order and equations among various countries have undergone paradigm shift subsequent to Globalization making a borderless society to emerge. Though, it is borderless the constituent population groups have their own cultural identity, style of thinking and behavior. With the increase in exposure of consumers to Global brands by marketing of products and services in new areas, the competition has become intense. In order to sustain and grow by each player involved in the Global competition, constant efforts in innovation value sensing, creation and communication have become focused activities. For communicating value in the dimensions of Product form, presentation, packaging and communication at retail space, online and social media, product information and enablement of stake holders involved in the entire process, color plays the most vital role.

Neurological Processes in Humans and Color

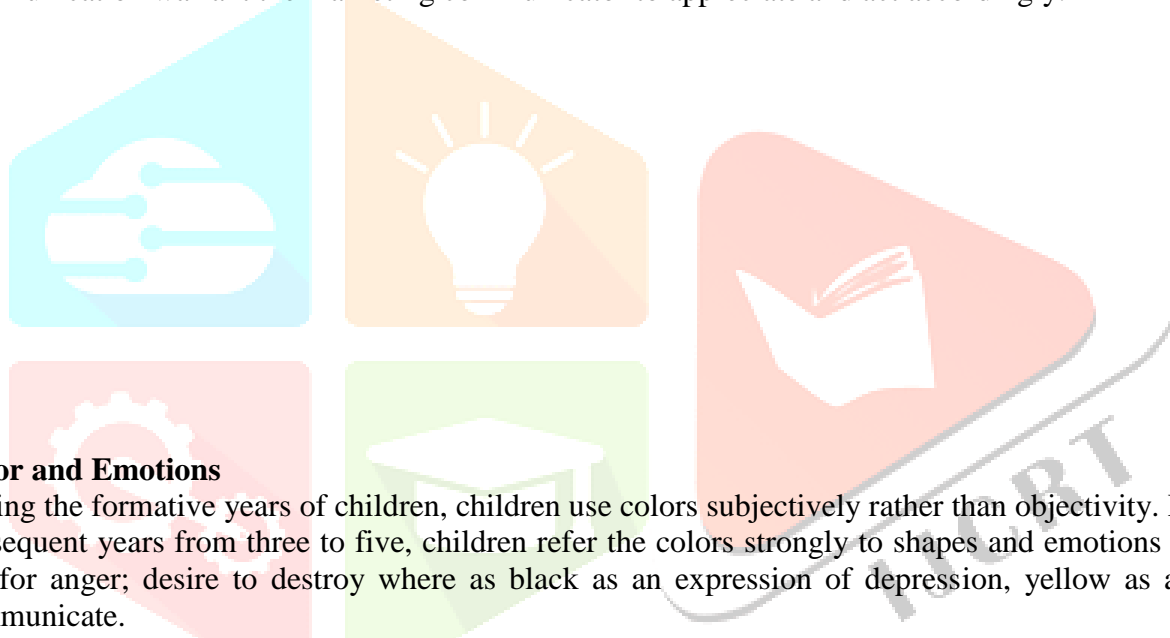
Various studies indicate that a human being can see over seven million colors as a result of the evolving combination from primary colors to secondary and tertiary colors. The colors thus obtained are classified in to “neutral” (beige and cream), “Cool” color (Variants of blue, violet and green) and “warm” colors (red and Yellow). Each of the above classification signifies the characteristics that “Neutral” refers to vibrancy, “Cool” refers to calming and “warm” refers to energizing. Studies by Satyendra Singh (2006) established that people cognizes with color in terms of interaction with people and product with in few seconds of exposure.

Color is the expression of light by differing wavelengths absorbed by the eyes and carried through nervous system to the brain which decodes and recognizes the color. Light is decomposed in to spectrum of distinct colors – red, orange, yellow, green, blue and violet. Red has the longest wavelength and violet the least. An object with yellow color absorbs all the colors in the spectrum thrown on it except yellow. This unabsorbed light is reflected back from the object in to the eyes of from where it travels to the brain and interpreted as yellow. In the retina of the eyes the light waves are converted in to electrical impulses that pass to the hypothalamus region of the central nervous system which activates the melamopsin photoreceptor system resulting in internal arousal as well as higher order attention processing, according to the study by Cajochen (2007). The human brain is architecture and evolved to detect colors and the brain is selective in retaining and choosing the color for subsequent recall of colors (Evans, 2006 and Jansson, 2010). Understanding of this processing mechanism is required by product developers, merchandisers and communicators of products and services.

Light is necessary for the colors to exist. Without light, humans cannot recognize color or objects or any other matter. This process is enabled in the eyes through cones and rods to see the colors and light respectively. There are three types of Cones. The colors Blue, Green and Red are associated with the types 1, 2 and 3 of the cones as researched by Harrington (1993).

Colors and Culture

Time immemorial the colors have associations with anthropological roots of humans. Geographical regions and the races have a significant association. In Asia, Orange denotes positivity, spiritually enlightening, and life affirming where as in United States of America; it denotes hazards, traffic delays and fast food eateries. Color is related to religions too. In a cross cultural study by Elst (1998), it was found that blue as the most preferred color in general; Orange is the most sacred among Hindus in India, Orange is not acknowledged as a color in Zambia (Tektronix,1998),Green as a sacred color in Islamic religion; Red and white is the combination used for ritual decorations reflecting sacred thoughts in west (Tektronix,1998).Color combinations are culturally bound with certain ideologies and traditions as documented by the researcher Geboy (1996).The significance of colors are distinguished by their presence between fun and serious, young and old, male and female and is associated with events like birth, wedding, ailments and funerals. The marketing communicator should have the clarity about the cultural context while deciding about marketing communication. The Global brands, logo and communication warrant the marketing communicator to appreciate and act accordingly.



Color and Emotions

During the formative years of children, children use colors subjectively rather than objectivity. During the subsequent years from three to five, children refer the colors strongly to shapes and emotions like bright red for anger; desire to destroy where as black as an expression of depression, yellow as a desire to communicate.

The study by Cimbalo (1978) tested the associations between colors and emotions across different age groups. The findings reveal the colors yellow, orange and blue are considered as happy colors; red, black and brown are considered as sad colors. The studies by Alpert (1986) demonstrated that atmospherics such as noise, size, shape, aroma and color influence emotional response and behavioral intentions.

Researchers have also established that colors are associated with the emotional images like blue color with wealth, trust and security; grey with strength, exclusivity and success; orange with cheaper existence. Based on the study by Scott- Kennis (2013), the meanings attributed to different colors are given in table 1.

Table No1:

Colour	Represent	Effect
Red	Energy; Action; Love; Desire; Passion	Stimulating; Exciting and motivating; Attention-getting; Assertive and aggressive
Orange	Adventure and risk taking; social communication and interaction; Friendship; Divorce	Enthusiasm; Rejuvenation; Stimulation; Courage; Vitality; Fun; Playful
Yellow	Mind and intellect; Happiness and fun; communication of new ideas	Creative; Quick decisions; Anxiety producing; Critical; Non-emotional; Light; Warmth; Motivation
Green	Harmony and balance; Growth; Hope; Wealth; Health; Prestige; serenity	Rejuvenation; Nurturing; Dependable; Agreeable and diplomatic; Possessiveness; Envy
Blue	Communication; Peace and calm; Honesty; Authority; Religion; Wisdom	Conservative; Predictable; Orderly; Rigid; Trustworthy; Dependable; Secure; Responsible
Purple/Violet	Inspiration; Imagination; Individuality; Spirituality; Royalty; Sophistication; Nostalgia; Mystery	Empathy; Controlled emotion; Respectable and distinguished; Impractical; Immature; Dignity; Cynical
Pink	Unconditional love; Compassion; Nurturing; Hope; Girlish	Calming; Non-threatening; Affectionate; Caring; Immature
Brown	Stability, Structure; Security; Natural and wholesome; Earthlike	Comforting; Protective; Materialistic; Simplistic; Durable
Grey/Gray	Neutrality; Compromise; Control	Indecision; Detached; Depression; Unemotional
White	Innocence and purity; New beginning; Equality and unity; Fairness	Impartial; Rescuer; Futuristic; Efficient; Clean; Soft; Noble
Black	Mystery; Power and control; Prestige; Value; Timelessness; sophistication	Formal; Dignified and sophisticated; Depressing; Pessimistic

Source: Scott- Kennis (2013)

Relevance for Marketing Professionals

Marketing professionals including marketing communication specialists need to have deeper insight about colors with the cultural context. Some of the applications of colors based on the literature review and various studies conducted by us indicate in the Indian context that:

In the domain of eateries and restaurants: Red color stimulates appetite and a popular choice for fast food outlets; yellow has the tendency to gain attention of the customer. In the case of formal restaurants where

atmospherics like relaxations, comfort, and desire to hang around for longer time period-the blue color can be the ideal choice. These revelations are concurred by the studies by Kido (2000), Ventch (2001) Harrington (1993). In this context one may like to recall the colors of the logos of Shell, Coke and Cadbury-Mondelez.

With the development of the appropriate technology, the applications are identified for organized multi brand retail chain, healthcare, hospitality, Infrastructure, entertainment and events sectors and collaborative research has been established with architects and designers in various area specified above.

Conclusion

The colors play a vital role in the in the decision making process by humans. Each color has its own cultural context. With the proliferation of brand choices for consumers, the role of the marketing professionals demands higher level capability. The insight about human senses and optics in particular help the marketing professionals devise appropriate program from concept development to delivering the value. While doing so, we can enhance the marketing efficiency by leveraging on color. The applications developed for restaurants and organized outlets give an idea about the areas that one can explore.

References:

- 1) Lindstrom, M. (2005). Broad sensory branding. *Journal of Product & Brand Management*, 14(2), 84-87.
- 2) Hultén, B., Broweus, N., & Van Dijk, M. (2009). *Sensory marketing*. New York: Palgrave Macmillan.
- 3) Hinestroza, Natalia Buitrago, & James, Paul T. J. (2014). The effects of sensory marketing on the implementation of fast-food marketing campaigns. *Journal of Management & Marketing Research*, 14, 1.
- 4) Jansson, C., Marlow, N., & Bristow, M. (2004). The influence of colour on visual search times in cluttered environments. *Journal of Marketing Communications*, 10(3), 183-193.
- 5) Kauppinen-Räsänen, H., & Luomala, T. H. (2010). Exploring consumers' product-specific colour meanings. *Qualitative Market Research. An International Journal*, 13(3), 287-308.
- 6) Chang, W. L., & Lin, H. L. (2010). The impact of color traits on corporate branding. *African Journal of Business Management*, 4(15), 3344-3355.
- 7) Caivano, José Luis, & López, Mabel Amanda. (2007). Chromatic Identity in Global and Local Markets: Analysis of Colours in Branding. *Journal of the International Colour Association*, 1(3), 1-14.
- 8) Crowley, A. E. (1993). The Two-Dimensional Impact of Color on Shopping. *Marketing Letters*, 4(1), 59-69. daPos, Osvaldo, & Green-Armytage, Paul (2007). Facial Expressions, Colours and Basic Emotions. *Journal of the International Colour Association*, 1(2), 1-20.
- 9) Singh, Satyendra. (2006). Impact of color on marketing. *Management Decision*, 44(6), 783-789.
- 10) Cajochen, C. (2007). Alerting effects of light. *Sleep Med. Rev.* 11, 453-464. doi: 10.1016/j.smrv.2007.07.009
- 11) Jansson-Boyd, C. 2010. *Consumer psychology*. Berkshire, England: McGraw-Hill.

- 12) Evans, M.; Jamal, A. & Foxall, G. 2006. Consumer behaviour. West Sussex, England: John Wiley & Sons Ltd.
- 13) Harrington, L. and Mackie, J. (1993), Color: A Stroke of Brilliance, Benjamin Moore & Co., Toronto.
- 14) Wiegersma, S. and Van der Elst, G. (1988), "Blue phenomenon: spontaneity or preference?", Perceptual & Motor Skills, Vol. 66 No. 1, pp. 308-10.
- 15) Tektronix (1988), The Color Connection, Catharine & Sons, Morton, IL.
- 16) Geboy, Lyn Dally (1996), Color makes a Better Message, Journal of Health Care Marketing, Summer, Vol. 16, No. 2, pp. 52-54.
- 17) Cimbalò, R.S., Beck, K.L. and Sendziak, D.S. (1978), "Emotionally toned pictures and color selection for children and college students", Journal of Genetic Psychology, Vol. 33 No. 2, pp. 303-4.
- 18) Alpert, J.I. and Alpert, M.I. (1986), The Effects of Music in Advertising on Mood and Purchase Intentions, University of Texas, Austin, TX.
- 19) Scott-Kemmis, J. 2013. Target Markets – Using color psychology to attract your target markets. Consulted 16.10.2013 <http://www.empower-yourself-with-color-psychology.com/target-markets.html>.
- 20) Kido, M. (2000), "Bio-psychological effects of color", Journal of International Society of Life Information Science, Vol. 18 No. 1, pp. 254-62.

