



CURRENT RESEARCH DEVELOPMENT

Impact of color on marketing

Impact of color
on marketing

Satyendra Singh

*Department of Administrative Studies, University of Winnipeg,
Winnipeg, Canada*

783

Received March 2006
Revised March 2006
Accepted March 2006

Abstract

Purpose – Color is ubiquitous and is a source of information. People make up their minds within 90 seconds of their initial interactions with either people or products. About 62-90 percent of the assessment is based on colors alone. So, prudent use of colors can contribute not only to differentiating products from competitors, but also to influencing moods and feelings – positively or negatively – and therefore, to attitude towards certain products. Given that our moods and feelings are unstable and that colors play roles in forming attitude, it is important that managers understand the importance of colors in marketing. The study is designed to contribute to the debate.

Design/methodology/approach – This article reviews the literature relating to color psychology in the context of marketing, highlights inconsistencies and controversies surrounding the color psychology, and, examines the impact of colors on marketing.

Findings – Findings of the study are that managers can use colors to increase or decrease appetite, enhance mood, calm down customers, and, reduce perception of waiting time, among others.

Research limitations/implications – The direction for future research and limitations of the study are presented.

Originality/value – Reviews the literature relating to color psychology in the context of marketing.

Keywords Colour, Light, Marketing information

Paper type Research paper

Background to color and light

Color is light carried on wavelengths absorbed by the eyes that the brain converts into colors that we see. Light can be decomposed into a spectrum of six distinct colors: red, orange, yellow, green, blue, and violet. The red has the longest wavelength whereas the violet the shortest. An object appearing yellow absorbs all of the colors in the spectrum except the yellow light. This unabsorbed light is reflected back from the object into the eyes from where it travels to the brain where it is interpreted as yellow. The eyes are comprised of cones and rods that allow us to see color and light, respectively. There are three types of cones: type I is associated with blue, type II with green, and, type III with red (Harrington and Mackie, 1993). Other colors are combination of these three colors. Psychologists have classified colors as warm (red and yellow) and cool (blue and green) colors. However, the distinction between warm and cool colors is relative; for example, when red and yellow are paired together, yellow is considered warmer than red. White, black, and gray are considered neutral colors. Because color experiences vary from individual to individual, it is not possible to know how another person experiences color. One person's experience of a shade of red can be perceived differently from another person.

Rods detect light that is necessary for colors to exist. Light affects the perception of colors. Whether it is the color of walls in a restaurant or retail stores or merely the color



Management Decision
Vol. 44 No. 6, 2006
pp. 783-789

© Emerald Group Publishing Limited
0025-1747
DOI 10.1108/00251740610673332

of packaging on a product, it is usually electrical lighting that allows colors to be seen. Electrical lighting has two major forms: incandescent and fluorescent lightings. Incandescent lightings enhance the warm colors while giving a poor appearance to cool colors. Halogen is a special form of incandescent lighting. Fluorescent lightings account for approximately 67 percent of lightings used worldwide (Veitch, 2001), but it lacks the warm colors of the spectrum. Although, it enhances blue and green, it makes red, orange, and yellow appear dull. However, a special type of fluorescent lighting called “full-spectrum” enhances all the colors of the spectrum (Veitch, 2001). Proponents of the use of full-spectrum fluorescent lighting believe that it contributes to developing human cognitive abilities. Studies have attempted to link lightings with memory, mood and cognitive abilities and found inconsistent results (Knez, 2001; Veitch, 2001). Regardless of lightings’ direct effect on cognitive abilities, it contributes to determining color appearance.

Color controversy

Scientific findings on color theory appear to be as contentious as the research on lighting’s effects. Conventional psychologists dismiss any role of color in influencing human personality, yet psychiatrists use color tests in conjunction with other tests to determine personality. While physiological responses to colors are part of the human experience, the evidence linking specific colors to specific responses is inconclusive (Kaiser, 1984).

Colors and health

Colors have been linked to health for centuries. Ancient Egyptian doctors bathed patients in colors of light to heal ailments. This trend has re-emerged as a branch of new age medicine, promoting the healing abilities of colors. It is believed that red energizes the liver, scarlet increases blood pressure, purple lowers blood pressure, orange strengthens lungs and increases calcium metabolism, green activates sympathetic nervous system, and, yellow energizes the alimentary tract. Kido (2000) suggested that blue stimulated the sympathetic nervous system the most and the red and green the least. This system is responsible for heartbeat, blood pressure and perspiration. These findings appear to contradict the generally accepted influences of colors on body, e.g. the red is associated with increasing metabolic state, and the blue with calmness and relaxation.

Colors and culture

Color is related to culture and religion. In a cross-cultural study, Wiegiersma and Van der Elst (1988) found that blue was the most preferred color in general across cultures. Orange is the most sacred color in Hindu religion in India, but the Ndembo in Zambia do not even acknowledge orange as a color (Tektronix, 1988). Muslims view green as a sacred color. For Celts, green was also sacred enough to be included in wedding ceremonies until the Christian church introduced the white color. In Inuit communities, white is so important that it has 17 words to describe it, each with different meaning. Red and white is a combination used for ritual decorations in Melanesia and for representing the Sacred Heart of the Catholic Church in Mexico (Tektronix, 1988). And, black always had a negative connotation associated with it, dating back to 2300 BC.

Colors and emotions

Colors affect different people in different ways. Cimbalò *et al.* (1978) tested association between colors and emotions, and designated yellow, orange, and blue as happy colors, and red, black and brown as sad colors. These emotions (happy vs sad) were similar across age groups (second and third grade) and had the same types of instilled emotions about specific colors. Kotler (1973) indicated that atmospherics such as noises, sizes, shapes, scents and colors could help create attention, convey messages, and create feelings that might increase purchase probability. The effects of such atmospherics have been demonstrated to influence emotional responses and behavioral intentions (Alpert and Alpert, 1986). Although, color is related to feelings about retail environment (Bellizzi *et al.*, 1983), it also affects distraction (Gerard, 1957) and influences anxiety (Jacobs and Suess, 1975).

Colors and gender

There are differences in the perception of colors between genders. Khouw (2002) found that men were more tolerant of gray, white or black than women, and that women reacted to the combinations of red and blue more frequently, and got confused and distracted more than men. It was also found that the combination of red and blue was the most preferred color by adults. These results suggest that there are gender differences in the perception of color. True, the subject's impressions of color seemed to be more subtle and effected not just by the coolness or warmness of the color palette, but also by the calibration of value, chroma, and contrast used in the interiors (Khouw, 2002).

Application of color in marketing

Colors appear to be contentious. The absence of conclusive scientific results relating to color has given rise to several speculations. There have been some advances in the research, although it came from companies in the color consultation industry. Although their nature of experiments is not scientific, the results seem to be in general agreement among marketers. Following are some of the applications in marketing.

Colors and restaurants

The red color stimulates appetite because of its effect on our metabolism, making red a popular color choice among fast-food restaurants. The yellow color is also employed by fast-food moguls to hijack customers' interests – they gain customers' attention, increase their appetite, and encourage them to eat. This is the best way for fast-food companies to generate sales. By contrast, formal restaurants use blue color to calm and relax their customers. This comforting state is expected to increase the likelihood of the customers lingering longer. Longer stays may correspond to larger meals, more wine, coffee, or desserts, and; therefore, more sales. This is an important strategy for formal restaurants to increase their sales. Although blue is linked to a calm state (Kido, 2000), its excessive use can be an appetite suppressant! Indeed, such an outcome is not desirable by formal restaurants. However, a particular type of restaurant could, to some extent, benefit from the appetite suppressant strategy – all-you-can-eat style restaurants that offer buffet at a flat rate. In such an instance, using the color clue could save the restaurant owner money if patrons did not eat as much; instead of generating increased sales, the owner benefits from lowered costs. The result is the same –

increasing the bottom line. However, this strategy to be effective, other aspects of the restaurant must be appealing, e.g. good service, food quality, surrounding, etc.

Colors and waiting time

Colors influence the perception of the passage of time. Time seems to pass slowly and objects seem larger and heavier under a red light. On the contrary, time seems to pass quite quickly and objects seem smaller and lighter under blue light. Casinos take advantage of this principle – they use red color lighting to get their customers excited while making them feel that they are not wasting a lot of time in the casino.

Colors and brands

Colors evoke brands. Whether it is Heineken's distinct green label, Coca-cola's red, Shell's yellow, or Cadbury's purple, all have different color values to different consumers. The high importance placed on color is an acknowledgment of manufacturers' understanding that color has strong emotional loading, able to prompt a swifter response to packaging than either the written work or imagery (Tutssel, 2000). Holograms and metallic colored packaging on Colgate toothpastes entice consumers to choose their toothpaste over Proctor & Gamble's.

Colors and trend

With the passage of time, people change preferences for colors. Like fashion pundits predict fashion trends, color consultants predict and set color trends by taking into account the idiosyncrasies of various segments of the population. They develop short- and long-term color forecasts so marketing managers could match the trend and adjust color of their products' packaging, maximizing the likelihood that their products will be preferred based on the color of the product, everything being equal. Indeed, manufacturers may benefit from the prediction of color experts when choosing a color for their products' packaging. Although the prediction is more an art than a science, pallet pundits have a strong influence on the emerging popular preferences for colors.

Conclusion

Colors are controversial. Some feel that human responses to colors are stable, therefore applicable to everyone, whereas others disagree, asserting that responses and preferences to colors vary across culture, gender, and age, among others. What can be demonstrated in meaningful scientific studies can be contradicted by the unverifiable research conducted by industry color consultants. So, the implication for marketing managers is that they should be aware of the perceived importance of colors and their interpretation in a particular geographic area. Packaging and store wall colors can drastically affect their sales. Managers have an option of exploiting these differences to their advantage while laying out design for their stores. Depending upon their target audience (e.g. gender-specific stores, kids store, etc.), they should choose colors for products or for interior decoration of their stores. Research relating to choice of colors should be conducted and concluded before launching a product, as the wrong color choice can have negative impact on the image of the product and the company. Global managers need to recognize that the different meanings associated with specific colors may facilitate multi-segment marketing opportunities. In addition, managers, who promote the country-of-origin of their product, may benefit by using the association of

particulars for specific countries, e.g. Chinese and French manufacturers can use red and purple colors on their products, respectively. It appears that colors lend credence to the generally accepted confidence in the psychological marketing of items.

Dining out is becoming more a means of social gathering than eating (Kulman, 2001). With more and more people frequenting restaurants and the subsequent rise in the number of restaurants to cater for this increased demand, owners are not only looking for ways to differentiate their restaurant from the crowd, but also to capitalize on the use of colors to increase profitability. Prudent use of colors in restaurateurs on the walls or carpets should increase food sales. Although, no direct evidence that specific restaurants using specific colors increased sales was documented, it might be generalized that depending on the type of restaurant (fast-food vs formal dining), careful color choice can influence customers' patronage to the restaurants. Red and yellow attract attention and stimulate the appetite while blue and green calm customers and encourage leisurely dining. In addition, buffet-style restaurants may wish to rely on blue because it may act as appetite suppressant.

It is expected that shrinking territorial barriers and advances in communications (the internet) should facilitate homogenization of use of colors across the globe; however, the extent to which the cultural or geographic color standard will be universally adopted depends on the new generation of people. With the accessibility and the desirability of American entertainment (television) across the globe, it appears that the North American preferences and associations of color will prevail. The colors are expected to make an impact in the first decade of the twenty-first century, with the strong emphasis on the blue color. An array of neutral colors (gray, taupe and pale brown) should accompany blue. In addition, soft pale colors like aqua, which represents serenity and relaxation, should dominate. Indeed, color can be an important, controllable marketing variable for managing image standardization because a product's color can function not only as an immediate identifier of its brand but also its quality and price, e.g. in Hong Kong, a golden can of soup signifies high quality, while black on white labeling generally conveys a generic or inferior quality.

Future research direction

Future research should test the impact of colors (cool vs warm) and light (dim vs bright) on sales. Combining the concepts of color with light, we propose a typology of four conditions that indicates a variety of industries under certain combinations. This typology can be tested empirically by using the median split method and comparing the means through the analysis of variance (ANOVA) technique (Figure 1).

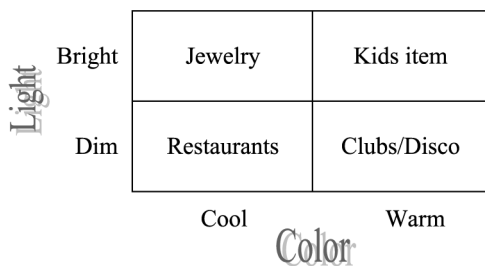


Figure 1.
The analysis of variance

Limitations

In this study, we assumed that everybody could see colors. In the US alone, approximately 19 million Americans suffer from some form of color-blindness (Kaufman-Scarborough, 2002). The symptoms can vary from a mere color confusion to a complete color-blindness, i.e. seeing in black, white, and shades of gray. Also, the eyes naturally turn yellow with age, altering people's perception of colors (Harrington and Mackie, 1993). Therefore, marketing managers should be aware of their color choices and the fact that the entire market might not experience their logos, advertisements, and packaging in the same manner it was intended by the marketing team. Colors can deceive, too.

References

- Alpert, J.I. and Alpert, M.I. (1986), *The Effects of Music in Advertising on Mood and Purchase Intentions*, University of Texas, Austin, TX.
- Bellizzi, J.A., Crowley, A.E. and Hasty, R.W. (1983), "The effects of color in store design", *Journal of Retailing*, Vol. 59 No. 1, pp. 21-45.
- Cimbalo, 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.
- Gerard, R.M. (1957), "Differential effects of colored lights on psychophysiological functions", unpublished doctoral dissertation, University of California, Los Angeles, CA.
- Harrington, L. and Mackie, J. (1993), *Color: A Stroke of Brilliance*, Benjamin Moore & Co., Toronto.
- Jacobs, K.W. and Suess, J.F. (1975), "Effects of four psychological primary colors on anxiety state", *Perceptual and Motor Skills*, Vol. 41, pp. 207-10.
- Kaiser, P. (1984), "Physiological response to color", *Color Research and Application*, Vol. 9 No. 1, pp. 29-36.
- Kaufman-Scarborough, C. (2002), "Seeing through the eyes of the color-blind shopper: developing dialogues for understanding", *Colors Matters – Research*, available at: www.colormatters.com (accessed 11 November 2002).
- Khouw, N. (2002), "The meaning of color for gender", *Colors Matters – Research*, available at: www.colormatters.com (accessed 11 November 2002).
- Kido, M. (2000), "Bio-psychological effects of color", *Journal of International Society of Life Information Science*, Vol. 18 No. 1, pp. 254-62.
- Knez, I. (2001), "Effects of color of light on nonvisual psychological processes", *Journal of Environmental Psychology*, Vol. 21 No. 2, pp. 201-8.
- Kotler, P. (1973), "Atmospherics as a marketing tool", *Journal of Retailing*, Vol. 49 No. 4, pp. 48-61.
- Kulman, L. (2001), "In today's restaurants, color my sushi beautiful", *US News & World Report*, Vol. 130 No. 2, p. 56.
- Tektronix (1988), *The Color Connection*, Catharine & Sons, Morton, IL.
- Tutssel, G. (2000), "But you can judge a brand by its color", *Brand Strategy*, November, pp. 8-9.
- Veitch, J.A. (2001), "A critical examination of perceptual and cognitive effects attributed to full-spectrum fluorescent lightning", *Ergonomics*, Vol. 44 No. 3, pp. 255-80.
- Wiegiersma, S. and Van der Elst, G. (1988), "Blue phenomenon: spontaneity or preference?", *Perceptual & Motor Skills*, Vol. 66 No. 1, pp. 308-10.

About the author

Satyendra Singh is an Associate Professor at the Department of Administrative Studies, University of Winnipeg, Winnipeg, Canada. He received his PhD from Nottingham Trent University, UK in conjunction with Southampton Business School, UK, MBA from Maastricht School of Management, The Netherlands, and BEng. from Muzaffarpur Institute of Technology, India. Satyendra Singh designed and taught courses at all levels in India, UK and Canada, and widely published in such journals as *Industrial Marketing Management*, *Journal of Global Marketing*, *Journal of Services Marketing*, *Services Industries Journal*, *Management Decision*, among others, and presented papers at international conferences such as American Marketing Association, Academy of Marketing Science, European Marketing Academy, and the British Academy of Management, among others. His research interests lie in the areas of emerging and re-emerging markets. He is the author of the book titled *Market Orientation, Corporate Culture and Business Performance*. Satyendra Singh can be contacted at s.singh@uwinnipeg.ca

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.